HERITAGE REMEDIATION/ENGINEERING, INC.



5656 Opportunity Drive Toledo, OH 43612 Phone: 419/478-4396 FAX: 419/478-4560

US EPA RECORDS CENTER REGION 5



December 16, 1992

Ms. Denise Trabbic-Clement Environmental Technician Du Pont Automotive Products 1930 Tremainsville Road Toledo OH 43613



Re: Summary of Analytical Data for RCRA Closure of the Boiler House Area Soil Excavation
Toledo Ohio Plant
HR/E Project No. 62041

Dear Denise,

In working towards closure of the above referenced area, we are summarizing the analytical data reports that are attached. Volatile organic compounds (VOCs) were detected in soils in the excavation floor and walls. The VOCs found are the same as previously detected in soil borings. The concentrations are fairly low when compared to the data from sampling in June 1991. Samples collected in April 1992 show comparable concentration ranges. These are the final analytical results.

Our understanding is that any detectable VOCs exceeds the approved plan as it was prepared in 1988. We also understand that there is some potential that the state may now accept some concentration of VOCs in the soils. This seems appropriate in this situation.

Acetone is the constituent that was found in the highest concentration in the soil. Acetone is very mobile and may have migrated through the soil to a significant depth simply due to diffusion. However, since the soils appear to be very fine grained, probably a clay, migration would be reduced. Clearly the concentration is much less than the samples collected in 1991 and somewhat less than in April 1992. Our conclusion is that excavation of the soil has removed almost all of the contaminants. We are concerned that the mobility of acetone may mean that further excavation and sampling will also show low levels of acetone. In "chasing" the low levels, the building and water line foundations may be put in jeopardy. Since there is no maximum contaminant level (MCL) established or proposed for acetone and acetone

92JR4096.T1





Ms. Denise Trabbic-Clement December 16, 1992 Page 2 of 2

was not detected in the pit water sample, the risk due to remaining contaminants is probably extremely low.

You should note that there was 190 ug/l total xylenes found in the pit water sample. This water seeped into the excavation from the side walls near the water main. The seepage appeared to be through a sand seam rather than through the clay which predominates the area. The MCL for total xylenes is 10,000 ug/l, well above the measured concentration.

Therefore, we recommend that you seek approval to backfill the excavation with clean soils. We suggest that you provide this information to state. Of course, we would gladly provide support and additional information to the state, as you would request.

If you have any questions, do not hesitate to contact us.

Sincerely,

Heritage Remediation/Engineering, Inc.

Joseph D. Ritchey, P.E.

Sr. Project Engineer

attachment

cc: Tim Durbin

Post-it™ Fax Note 7671	Data / 8/44 pages 2
To frank mith	From Lanes
Co./Dept.	Co.
Phone #	Phone #
Fax #	Fax #

Table 1 Analytical Results of Soils from the Boiler House Area Excavation.

Samples collected on December 4, 1992.

Bottom of Excavation.

Constituent	C-0-2 South Wall ug/kg	E-10-4 West Wall ug/kg	D-12-5 Floor ug/kg	B-12-5 Floor ug/kg	E-25-2 West Wall ug/kg	C-32.5-2 North Wall ug/kg	Water in Pit ug/l	Trip Blank ug/l
			Volatile	Organics				
Acetone	70	42	57	33	45	45	<20	<20
Ethyl Benzene	<5	<5	< 5	<5	<5	<5	26	<5
Methylene Chloride	9	11	<5	5 Est.	9	13	<5	<5
Methyl Ethyl Ketone	22	10 Est.	17	<10	16	16	<10	<10
Toluene	12	<5	<5	<5	<5	<5	<5	<5
Total Xylenes	<5	<5	<5	<5	<5	<5	190	<5
							-	1
			Semi-Volati	le Organics	1			

^{1 -} No Constituents Detected.

CERTIFICATE OF ANALYSIS

Service Location IERITAGE LABORATORIES, INC.	Received	Project	Lab ID
	08-DEC-92	1871	A268672
7901 W. MORRIS ST.	Complete	PO N	umber
INDIANAPOLIS, IN 46231	11-DEC-92	29-1	497
(317)243-8305	Printed	Samp	led
	12-DEC-92	04-DEC-	92 17:30

Report To

STEVE KLEMM
HERITAGE REMEDIATION/ENGINEERING, INC
5656 OPPORTUNITY DRIVE
TOLEDO, OH 43612

Bill To

STEVE SMITH
HERITAGE REMEDIATION/ENGINEERING, INC.
5656 OPPURTUNITY DRIVE
TOLEDO, OH 43612

Sample Description

LOCATION: DUPONT AUTOMOTIVE FINISHES

SAMPLE ID: 006

SAMPLE DESCRIPTION: C-32.5-2 (NORTH WALL)

DESCRIPTION

Analyst: R. SHAMP Analysis Date: 09-DEC	Result	Det. Limit Units
ACETONE	45	20 ug/kg
ROLEIN	BDL	50 ug/kg
RYLONITRILE	BDL	70 ug/kg
BENZENE	BDL	5 ug/kg
BROMODICHLOROMETHANE	BDL	5 ug/kg
BROMOFORM	BDL	5 ug/kg
BROMOMETHANE	BDL	10 ug/kg
CARBON DISULFIDE	BDL	5 ug/kg
CARBON TETRACHLORIDE	BDL	5 ug/kg
CHLOROBENZENE	BDL	5 ug/kg
CHLOROETHANE	BDL	10 ug/kg
CHLOROFORM	BDL	5 ug/kg
CHLOROMETHANE	BDL	10 ug/kg
DIBROMOCHLOROMETHANE	# BDL	5 ug/kg
CIS-1,3-DICHLOROPROPENE	BDL	5 ug/kg
DICHLORODIFLUOROMETHANE	BDL	5 ug/kg
1,1-DICHLOROETHANE	BDL	5 ug/kg
I,2-DICHLOROETHANE	BDL	5 ug/kg
1,1-DICHLOROETHENE	BDL	5 ug/kg
1,2-DICHLOROPROPANE	BDL	5 ug/kg
ETHYLBENZENE	BDL	5 ug/kg
FLUOROTRICHLOROMETHANE	BDL	5 ug/kg
2-HEXANONE	BDL	10 ug/kg
METHYLENE CHLORIDE	13	5 ug/kg
METHYL ETHYL KETONE	16	10 ug/kg
I-METHYL-2-PENTANONE	BDL	10 ug/kg
TYRENE	BDL	5 ug/kg
,1,2,2-TETRACHLOROETHANE	BDL	5 ug/kg
ETRACHLOROETHENE	BDL	5 ug/kg
TETRAHYDROFURAN	BDL	25 ug/kg
TOLUENE	BDL	5 ug/kg
1,2-DICHLOROETHENE (TOTAL)	BDL	5 ug/kg 1 (continued on next pag

Parameter	Result	Det. Limit	Units
TRANS-1,3-DICHLOROPROPENE	BDL	5	ug/kg
,1,1-TRICHLOROETHANE	BOL	5	ug/kg
, ,,1,2-TRICHLOROETHANE	BDL	5	ug/kg
TRICHLOROETHENE	BDL	5	ug/kg
VINYL ACETATE	BDL	10	ug/kg
VINYL CHLORIDE	BDL	10	ug/kg
XYLENE (TOTAL)	BDL	5	ug/kg
SURROGATE RECOVERY			
DICHLOPOETHANE-DA	104		% Rec
TOLUENE-D8	103		% Rec
BROMOFLUOROBENZENE	97		% Rec

GC/MS SONICATION EXTRACTION FOR ORGANICS SW846-35 Analysis Mate: 09-DEC-92	.50	Test: P236.4.	.0
Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	30.0		Grams
ETNAL VOLIME	A		the same of the sa

Analyst: J. MINNIEAR, II Analysis Date: 10-DEC-92 Instrument: GC/MS SVOA Prep: GC/MS SONICATION EXTRACTION FOR ORGANICS SW846-3550 P236.4.0		Test: 0505.3.0		
Parameter	Result	Det. Limit	Units	
ACENAPHTHENE	BDL	330	ug/kg	
ACENAPHTHYLENE	BDL	330	ug/kg	
NTHRACENE	BDL	330	ug/kg	
NZ(A)ANTHRACENE	BDL	330	ug/kg	
SENZO(A)PYRENE	BDL	330	ug/kg	
ENZO(B)FLUORANTHENE	BDL	330	ug/kg	
ENZO(G,H,I)PERYLENE	BDL	330	ug/kg	
ENZO(K) FLUORANTHENE	BDL	330	ug/kg	
ENZYL ALCOHOL	BOL F	330	ug/kg	
ENZYLBUTYLPHTHALATE	BOL	330	ug/kg	
IS(2-CHLOROETHOXY)METHANE	BDL	330	ug/kg	
IS(2-CHLOROETHYL)ETHER	BOL	330	ug/kg	
IS(2-CHLOROISOPROPYL)ETHER	BDL	330	ug/kg	
IS(2-ETHYLHEXYL)PHTHALATE	BOL	330	ug/kg	
-BROMOPHENYLPHENYLETHER	BDL	330	ug/kg	
ARBAZOLE	BDL	330	ug/kg	
-CHLOROANILINE	BDL	330	ug/kg	
-CHLORONAPHTHALENE	BOL	330	ug/kg	
-CHLOROPHENYLPHENYLETHER	BDL	330	ug/kg	
HRYSENE	BDL	330	ug/kg	
IBENZ(A, H) ANTHRACENE	BDL	330	ug/kg	
I BENZOFURAN	BDL	330	ug/kg	
,2-DICHLOROBENZENE	BDL	330	ug/kg	
,3-DICHLOROBENZENE	BDL	330	ug/kg	
,4-DICHLOROBENZENE	BDL	330	ug/kg	
,3'-DICHLOROBENZIDINE	BDL	660	ug/kg	
IETHYLPHTHALATE	BDL	330	ug/kg	
IMETHYLPHTHALATE	BDL	330	ug/kg	
-N-BUTYLPHTHALATE	BDL	330	ug/kg	
NITROBENZENES	BDL	330		
,4-DINITROTOLUENE	BDL	330	ug/kg	
,6-DINITROTOLUENE	BDL	330		
I-N-OCTYLPHTHALATE	BDL	330	ug/kg	

HERITAGE LABORATORIES, INC.

Lab Sample ID: A268667

Parameter LUORANTHENE	Result BDL	Det. Limit	Units ug/kg
UORENE	BDL	330	
HEXACHLOROBENZENE	BDL	330	1
HEXACHLOROBUTADIENE	BDL	330	ug/kg
			ug/kg
HEXACHLOROCYCLOPENTADIENE	BDL	330	ug/kg
HEXACHLOROETHANE	BDL	330	J, J.
INDENO(1,2,3-CD)PYRENE	BDL	330	ug/kg
ISOPHORONE	BDL	330	
2-METHYLNAPHTHALENE	BDL	330	ug/kg
NAPHTHALENE	BDL	330	
2-NITROANILINE ,	BDL	1600	ug/kg
3-NITROANILINE	BDL	1600	ug/kg
4-NITROANILINE	BDL	1600	ug/kg
NITROBENZENE	BDL	330	ug/kg
N-NITROSO-DIPHENYLAMINE	BDL	330	ug/kg
N-NITROSO-DI-N-PROPYLAMINE	BDL	330	ug/kg
PHENANTHRENE	BDL	330	ug/kg
2-PICOLINE	BDL	1600	ug/kg
PYRENE	BDL	330	ug/kg
PYRIDINE	BDL	1600	ug/kg
TETRACHLOROBENZENES	(BDL	330	ug/kg
TOLUENEDIAMINE	BDL	1600	
1,2,4-TRICHLOROBENZENE	BDL	330	ug/kg
BENZOIC ACID	BDL	1600	
4-CHLORO-3-METHYLPHENOL	BDL	330	ug/kg
2-CHLOROPHENOL	BDL	330	ug/kg
4-DICHLOROPHENOL	BDL	330	ug/kg
,4-DIMETHYLPHENOL	BDL	330	ug/kg
4,6-DINITRO-2-METHYLPHENOL	BDL	1600	ug/kg
2,4-DINITROPHENOL	BDL	1600	
2-METHYLPHENOL	BDL	330	ug/kg
4-METHYLPHENOL	BDL	330	ug/kg
2-NITROPHENOL	BDL	330	ug/kg
4-NITROPHENOL	BDL	1600	ug/kg
PENTACHLOROPHENOL	BDL	1600	ug/kg
PHENOL	BĎĽ	330	
TETRACHLOROPHENOL	BDL	330	ug/kg
2,4,5-TRICHLOROPHENOL	BDL	1600	ug/kg
2,4,6-TRICHLOROPHENOL	BDL	330	ug/kg
a, ,, a madical limit	JUL .	330	ביו /ביי
SURROGATE RECOVERY			
2-FLUOROPHENOL	82		% Rec
PHENOL-D5	97		% Rec
NITROBENZENE-D5	99	**************************************	% Rec
2-FLUOROBIPHENYL	105		% Rec
2,4,6-TRIBROMOPHENOL	80	en managemen	% Rec
TERPHENYL-D14	115		
MENTILIVILEDAY	[11-5		% Rec

Sample Comments

BDL Below Detection Limit

mple chain of custody number 16590.

IDEM Drinking Water Certification Number C-49-01

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Delena

CERTIFICATE OF ANALYSIS

Service Location	Received	Project	Lab ID
HERITAGE LABORATORIES, INC.	08-DEC-92	1871	A268671
, 7901 W. MORRIS ST.	Complete	PO N	umber
INDIANAPOLIS, IN 46231	11-DEC-92	29-1	497
(317)243-8305	Printed	Samp	led
	12-DEC-92	04-DEC-	92 17:20

Report To

STEVE KLEMM HERITAGE REMEDIATION/ENGINEERING, INC 5656 OPPORTUNITY DRIVE TOLEDO, OH 43612

Bill To

STEVE SMITH HERITAGE REMEDIATION/ENGINEERING, INC. 5656 OPPURTUNITY DRIVE TOLEDO, OH 43612

Sample Description

LOCATION: DUPONT AUTOMOTIVE FINISHES

SAMPLE ID: 005 SAMPLE DESCRIPTION: E-25-2 (WEST WALL)

DESCRIPTION

VOLATILE ORGANICS (HEATED PURGE & TRAP) SW846-8240 Analyst: R. SHAMP Analysis Date: 09-DEC-92 Instrument: GC/MS VOA		Test: 0510.9.0		
Parameter	Result		Inits	
ACETONE	45	20 ug/		
CROLEIN	BOL	50 ug/		
RYLONITRILE	BDL	70 ug/		
ENZENE	BDL	5 ug/		
BROMODICHLOROMETHANE	BDL	5 ug/	'kg	
BROMOFORM	BDL	5 ug/		
BROMOMETHANE	BDL	10 ug/	′kg	
CARBON DISULFIDE	BDL	5 ug/	kg	
CARBON TETRACHLORIDE	BDL	5 ug/	'kg	
CHLOROBENZENE	BOL	5 ug/	′kg	
CHLOROETHANE	BDL	10 ug/	′kg	
CHLOROFORM	BDL	5 ug/		
CHLOROMETHANE	BDL	10 ug/		
)IBROMOCHLOROMETHANE	BDL	5 ug/		
CIS-1,3-DICHLOROPROPENE	BDL	5 ug/		
DICHLÓRODIFLUOROMETHANE	BDL	5 ug <i>j</i>	kg	
I,1-DICHLOROETHANE	BDL	5 ug/		
,2-DICHLOROETHANE	BDL	5 ug/		
,1-DICHLOROETHENE	BDL	5 ug/		
,2-DICHLOROPROPANE	BDL	5 ug/	ka	
THYLBENZENE	BDL	5 ug/		
LUOROTRICHLOROMETHANE	BDL	5 ug/		
?-HEXANONE	BDL	10 ug/		
METHYLENE CHLORIDE	9	5 ug/		
METHYL ETHYL KETONE	16	10 ug/		
-METHYL-2-PENTANONE	BDL	10 ug/		
TYRENE	BDL	5 ug/		
1,2,2-TETRACHLOROETHANE	BDL	5 ug/		
TRACHLOROETHENE	BDL	5 ug/		
ETRAHYDROFURAN	BDL	25 ug/		
TOLUENE	BDL	5 ug/		
,2-DICHLOROETHENE (TOTAL)	BDL	5 ug/		

1 (continued on next page) Page

HERITAGE LABORATORIES, INC.

Lab Sample ID: A268668

Parameter	Result	Det. Limit	Units
VANS-1,3-DICHLOROPROPENE	BDL	<u> 5</u>	ug/kg
,1,1-TRICHLOROETHANE	BDL	5	ug/kg
1,1,2-TRICHLOROETHANE	BDL	5	ug/kg
TRICHLOROETHENE	BOL	5	ug/kg
VINYL ACETATE	∮ BDL	10	ug/kg
VINYL CHLORIDE	I BD1	10	ug/kg
XYLENE (TOTAL)	BDL	5	ug/kg
SURROGATE RECOVERY			
DICHLOROETHANE-D4	83		% Rec
TOLUENE-D8	95		% Rec
BROMOFLUOROBENZENE	104		% Rec

GC/MS SONICATION EXTRACTION FOR ORGANICS SW846-35 Analysis Date: 09-DEC-92	50	Test: P236.4.	0
Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	30.0		Grams
	T	************************	

SEMI-VOLATILE ORGANICS (BASE/NEUTRAL/ACID Analyst: J. MINNIEAR, II Analysis Date: 10-DEC-92 Prep: GC/MS SONICATION EXTRACTION FOR ORGANICS SW846-359	Test: 0505.3.0	
Parameter	Result	Det. Limit Units
ACENAPHTHENE	BDL	330 ug/kg
ACENAPHTHYLENE	BDL	330 ug/kg
ITHRACENE	BDL	330 ug/kg
NZ(A)ANTHRACENE	BDL	330 ug/kg
BENZO(A)PYRENE	BDL	330 ug/kg
BENZO(B)FLUORANTHENE	BDL	330 ug/kg
BENZO(G,H,I)PERYLENE	BDL	330 ug/kg
BENZO(K)FLUORANTHENE	BDL	330 ug/kg
BENZYL ALCOHOL	BDL	330 ug/kg
BENZYLBUTYLPHTHALATE	BDL	330 ug/kg
BIS(2-CHLOROETHOXY)METHANE	BDL	330 ug/kg
BIS(2-CHLOROETHYL)ETHER	BDL	330 ug/kg
BIS(2-CHLOROISOPROPYL)ETHER	BDL	330 ug/kg
BIS(2-ETHYLHEXYL)PHTHALATE	BDL	330 ug/kg
4-BROMOPHENYLPHENYLETHER	BDL	330 ug/kg
CARBAZOLE	BDL	330 ug/kg
4-CHLOROANILINE	BDL	330 ug/kg
2-CHLORONAPHTHALENE	BDL	330 ug/kg
4-CHLOROPHENYLPHENYLETHER	BDL	330 ug/kg
CHRYSENE	BDL	330 ug/kg
DIBENZ(A,H)ANTHRACENE	BDL	330 ug/kg
DIBENZOFURAN	BDL	330 ug/kg
1,2-DICHLOROBENZENE	BDL	330 ug/kg
1,3-DICHLOROBENZENE	BDL	330 ug/kg
1,4-DICHLOROBENZENE	BDL	330 ug/kg
3,3'-DICHLOROBENZIDINE	BDL	660 ug/kg
DIETHYLPHTHALATE	BDL	330 ug/kg
"IMETHYLPHTHALATE	BDL	330 ug/kg
I-N-BUTYLPHTHALATE	BDL	330 ug/kg
INITROBENZENES	BDL	330 ug/kg
2,4-DINITROTOLUENE	BDL	330 ug/kg
2,6-DINITROTOLUENE	BDL	330 ug/kg
DÍ-N-OCTYLPHTHALATE	BDL	330 ug/kg

HERITAGE LABORATORIES, INC.

Lab Sample ID: A268668

Parameter	Result BDL	Det. Limit	Units
UORENE	BDL	330	ug/kg
HEXACHLOROBENZENE	BDL	330	ug/kg
HEXACHLOROBENZENE	BDL	330	ug/kg
HEXACHLOROCYCLOPENTADIENE	BDL	330	ug/kg
HEXACHLOROETHANE	BDL	330	ug/kg
INDENO(1,2,3-CD)PYRENE	BDL	330	
ISOPHORONE	BDL	330	ug/kg
2-METHYLNAPHTHALENE	BDL	330	
NAPHTHALENE	BDE	330	ug/kg
2-NITROANILINE	BDL	1600	ug/kg ug/kg
3-NITROANILINE	BDL	1600	
4-NITROANILINE	BDL	1600	ug/kg ug/kg
NITROBENZENE	BDL	330	
N-NITROSO-DIPHENYLAMINE	BDL	330	ug/kg ug/kg
N-NITROSO-DI-N-PROPYLAMINE	BDL	330	ug/kg ug/kg
PHENANTHRENE	BDL	330	ug/kg
2-PICOLINE	BDL	1600	ug/kg
PYRENE	BDL	330	ug/kg
PYRIDINE	BDL	1600	ug/kg
TETRACHLOROBENZENES	BDL	330	ug/kg
TOLUENEDIAMINE	BDL	1600	ug/kg
1,2,4-TRICHLOROBENZENE	BDL	330	ug/kg
BENZOIC ACID	BDL	1600	ug/kg
4-CHLORO-3-METHYLPHENOL	BDL	330	ug/kg
2-CHLOROPHENOL	BDL	330	ug/kg
,4-DICHLOROPHENOL	BDL	330	ug/kg
,4-DIMETHYLPHENOL	BDL	330	ug/kg
4,6-DINITRO-2-METHYLPHENOL	BDL	1600	ug/kg
2,4-DINITROPHENOL	BDL		ug/kg
2-METHYLPHENOL	BDL	330	ug/kg
4-METHYLPHENOL	BDL	330	ug/kg
2-NITROPHENOL	BDL	330	ug/kg
4-NITROPHENOL	BDL		ug/kg
PENTACHLOROPHENOL	BDL	1600	ug/kg
PHENOL	BDL		ug/kg
TETRACHLOROPHENOL	BDL	330	ug/kg
2,4,5-TRICHLOROPHENOL	BDL	1600	ug/kg
2,4,6-TRICHLOROPHENOL	BDL	330	ug/kg
SURROGATE RECOVERY			
2-FLUOROPHENOL	72		% Rec
PHENOL-D5	94		% Rec
NITROBENZENE-D5	95		% Rec
2-FLUOROBIPHENYL	101		% Rec
2,4,6-TRIBROMOPHENOL	52		% Rec
TERPHENYL-D14	110		% Rec

Sample Comments

BDL Below Detection Limit

EST Estimated Value

Sample chain of custody number 16590.

TDEM Drinking Water Certification Number C-49-01 his Certificate shall not be reproduced, except in full, without the written approval of the lab.

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Attuan

CERTIFICATE OF ANALYSIS

Service Location	Received	Project	Lab ID
ERITAGE LABORATORIES, INC.	08-DEC-92	1871	A268669
901 W. MORRIS ST.	Complete	PO N	umber
INDIANAPOLIS, IN 46231	11-DEC-92	29-1	497
17)243-8305 Printed		Sampled	
	12-DEC-92	04-DEC-	92 17:00

Report To

STEVE KLEMM HERITAGE REMEDIATION/ENGINEERING, INC 5656 OPPORTUNITY DRIVE TOLEDO, OH 43612

Bill To

STEVE SMITH HERITAGE REMEDIATION/ENGINEERING, INC. 5656 OPPURTUNITY DRIVE TOLEDO, OH 43612

Sample Description

LOCATION: DUPONT AUTOMOTIVE FINISHES

SAMPLE ID: 003
SAMPLE DESCRIPTION: D-12-5 (FLOOR)

DESCRIPTION

	-92 Instrument: GC/MS VOA	Test: 0510.9.0
Parameter	Result	Det. Limit Units
ACETONE	57	20 ug/kg
*CROLEIN	BDL	50 ug/kg
RYLONITRILE	BDL	70 ug/kg
ULNZENE	BOL	5 ug/kg
BROMODICHLOROMETHANE	BDL	5 ug/kg 5 ug/kg
BROMOFORM	BDL	, , ,
BROMOMETHANE	BDL	10 ug/kg
CARBON DISULFIDE	BDL	5 ug/kg
CARBON TETRACHLORIDE	BDL	5 ug/kg
CHLOROBENZENE	BDL	5 ug/kg
CHLOROETHANE	BDL	10 ug/kg
CHLOROFORM	BOL	5 ug/kg
CHLOROMETHANE	BDL	10 ug/kg
DIBROMOCHLOROMETHANE	BDL	5 ug/kg
CIS-1,3-DICHLOROPROPENE	BDL	5 ug/kg
DICHLORODIFLUOROMETHANE	BDL	5 ug/kg
1,1-DICHLOROETHANE	BDL	5 ug/kg 5 ug/kg
1,2-DICHLOROETHANE	BDL	
1,1-DICHLOROETHENE	BDL	5 ug/kg
1,2-DICHLOROPROPANE	BDL	5 ug/kg
ETHYLBENZENE	BDL	5 ug/kg
FLUOROTRICHLOROMETHANE	BDL	5 ug/kg
2-HEXANONE	BDL	10 ug/kg
METHYLENE CHLORIDE	BDL	5 ug/kg
METHYL ETHYL KETONE	17	10 ug/kg
4-METHYL-2-PENTANONE	BDL	10 ug/kg
STYRENE	BDL	5 ug/kg
1,2,2-TETRACHLOROETHANE	BOL	5 ug/kg
TRACHLOROETHENE	BDL	5 ug/kg
TETRAHYDROFURAN	BDL	25 ug/kg
TOLUENE	BDL	5 ug/kg
1,2-DICHLOROETHENE (TOTAL)	BDL	5 ug/kg

l (continued on next page) Page

Lab Sample ID: A268669

Parameter	Result	Det. Limit	Units
'TRANS-1,3-DICHLOROPROPENE	BDL	5	ug/kg
,1,1-TRICHLOROETHANE	BDL	5	ug/kg
1,1,2-TRICHLOROETHANE	BDL	5	ug/kg
TRICHLOROETHENE	BDL	5	ug/kg
VINYL ACETATE	BDL	10	ug/kg
VINYL CHLORIDE	BDL	10	ug/kg
XYLENE (TOTAL)	BDL	5	ug/kg
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
SURROGATE RECOVERY			
		*	
DICHLOROETHANE-D4	108		% Rec
			% Rec
BROMOFLUOROBENZENE	98		% Rec

GC/MS SONICATION EXTRACTION FOR ORGANICS SW846-3550 Analyst: M. FRANK Analysis Date: 09-DEC-92 Test: P236.4.0			
Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	30.0		Grams
FINAL VOLUME			mL

SEMI-VOLATILE ORGANICS (BASE/NEUTRAL/ACID FRACTIONS) SW846-8270 Analyst: J. Minniear, II Analysis Date: 10-DEC-92 Instrument: GC/MS SVOA Prep: GC/MS SONICATION EXTRACTION FOR ORGANICS SW846-3550 P236.4.0			Test: 0505.3.0	
Parameter	Result	Det. Limit	Units	
ACENAPHTHENE	BDL	330	ug/kg	
ACENAPHTHYLENE	BDL	330	ug/kg	
NTHRACENE	BDL	330	ug/kg	
ENZ (A) ANTHRACENE	BDL	330	ug/kg	
BENZO(A)PYRENE	BDL	330	ug/kg	
BENZO(B)FLUORANTHENE	BDL	330	ug/kg	
BENZO(G,H,I)PERYLENE	BDL	330	ug/kg	
BENZO(K)FLUORANTHENE	BDL	330	ug/kg	
BENZYL ALCOHOL	BDL	330	ug/kg	
BENZYLBUTYLPHTHALATE	BDL	330		
BIS(2-CHLOROETHOXY)METHANE	BDL	330	ug/kg	
BIS(2-CHLOROETHYL)ETHER	BDL	330	ug/kg	
BIS(2-CHLOROISOPROPYL)ETHER	BDL	330	ug/kg	
BIS(2-ETHYLHEXYL)PHTHALATE	BDL	330	ug/kg	
4-BROMOPHENYLPHENYLETHER	BDL	330	ug/kg	
CARBAZOLE	BDL	330	ug/kg	
4-CHLOROANILINE	BDL	330	ug/kg	
2-CHLORONAPHTHALENE	BDL	330	ug/kg	
4-CHLOROPHENYLPHENYLETHER	BDL	330	ug/kg	
CHRYSENE	BDL	330	ug/kg	
DIBENZ(A, H) ANTHRACENE	BDL	330	ug/kg	
DIBENZOFURAN	BDL	330	ug/kg	
1,2-DICHLOROBENZENE	BDL	330	ug/kg	
1,3-DICHLOROBENZENE	BDL	330	ug/kg	
1,4-DICHLOROBENZENE	BDL	330	ug/kg	
3,3'-DICHLOROBENZIDINE	BDL	660	ug/kg	
DIETHYLPHTHALATE	BDL	330	ug/kg	
DIMETHYLPHTHALATE	BDL	330	ug/kg	
I-N-BUTYLPHTHALATE	BDL	330	ug/kg	
_INITROBENZENES	BDL	330		
2,4-DINITROTOLUENE	BDL	330	ug/kg	
2,6-DINITROTOLUENE	BDL	330	ug/kg	
DI-N-OCTYLPHTHALATE	BDL	330	ug/kg	

Parameter	Result	Det. Limit	Units
FLUORANTHENE	BDL	330	J 41 4
UORENE	BDL	330	J
EXACHLOROBENZENE	BDL	330	· · · · · · · · · · · · · · · · · · ·
HEXACHLOROBUTADIENE	BDL	330	·
HEXACHLOROCYCLOPENTADIENE	BDL	330	ug/kg
HEXACHLOROETHANE	BDL	330	3, 3, 3,
INDENO(1,2,3-CD)PYRENE	BDL	330	ug/kg
ISOPHORONE	BDL	330	
2-METHYLNAPHTHALENE	BDL	330	ug/kg
NAPHTHALENE	BDL	330	0, 0,
2-NITROANILINE	BDL	1600	ug/kg
3-NITROANILINE	BDL	1600	ug/kg
4-NITROANILINE	BDL	1600	ug/kg
NITROBENZENE	BDL	330	ug/kg
N-NITROSO-DIPHENYLAMINE	BDL	330	ug/kg
N-NITROSO-DI-N-PROPYLAMINE	BDL	330	
PHENANTHRENE	BDL	330	ug/kg
2-PICOLINE	BDL	1600	
PYRENE	BDL	330	ug/kg
PYRIDINE	BDL	1600	ug/kg
TETRACHLOROBENZENES	BDL	330	ug/kg
TOLUENEDIAMINE	BDL	1600	ug/kg
1,2,4-TRICHLOROBENZENE	BDL	330	ug/kg
BÉNZOIC ACID	#BDL	1600	ug/kg
4-CHLORO-3-METHYLPHENOL	BDL	330	ug/kg
2-CHLOROPHENOL	BDL	330	ug/kg
^,4-DICHLOROPHENOL	BDL	330	ug/kg
4-DIMETHYLPHENOL	BDL	330	ug/kg
4,6-DINITRO-2-METHYLPHENOL	BDL	1600	ug/kg
2,4-DINITROPHENOL	BDL	1600	ug/kg
2-METHYLPHENOL	BDL	330	ug/kg
4-METHYLPHENOL	BDL	330	ug/kg
2-NITROPHENOL	BDL	330	ug/kg
4-NITROPHENOL	BDL	1600	ug/kg
PENTACHLOROPHENOL	BDL	1600	ug/kg
PHENOL	BOL		ug/kg
TETRACHLOROPHENOL	BDL	330	ug/kg
2,4,5-TRICHLOROPHENOL	BDL	1600	ug/kg ug/kg
2,4,6-TRICHLOROPHENOL	BDL	330	
SURROGATE RECOVERY	DUL	330	ug/kg
JOHNOUMIL RECOVERS			
2-FLUOROPHENOL	71		% Rec
PHENOL-D5	91		% Rec
NITROBENZENE-D5	89		% Rec
2-FLUOROBIPHENYL	95		% Rec
2,4,6-TRIBROMOPHENOL	71		% Rec
TERPHENYL-D14	113		% Rec

BDL Below Detection Limit

nmple chain of custody number 16590.

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CERTIFICATE OF ANALYSIS

Service Location	Received	Project	Lab ID
HERITAGE LABORATORIES, INC.	08-DEC-92	1871	A268670
7901 W. MORRIS ST.	Complete	ete PO Number	
INDIANAPOLIS, IN 46231	11-DEC-92	29-1	497
(317)243-8305	Printed	Samp	led
	12-DEC-92	04-DEC-	92 17:10

Report To

STEVE KLEMM
HERITAGE REMEDIATION/ENGINEERING, INC
5656 OPPORTUNITY DRIVE
TOLEDO, OH 43612

Bill To

STEVE SMITH
HERITAGE REMEDIATION/ENGINEERING, INC.
5656 OPPURTUNITY DRIVE
TOLEDO, OH 43612

Sample Description

LOCATION: DUPONT AUTOMOTIVE FINISHES

SAMPLE ID: 004

SAMPLE DESCRIPTION: B-12-5 (FLOOR)

DESCRIPTION

VOLATILE ORGANICS (HEATED PURGE & TRAP) Analyst: R. SHAMP Analysis Date: 09-DEC		Test: 0510.9.0
Parameter	Result	Det. Limit Units
ACETONE	33	20 ug/kg
ROLEIN	BDL	50 ug/kg
CRYLONITRILE	BDL	70 ug/kg
BENZENE	BDL	5 ug/kg
BROMODICHLOROMETHANE	BDL	5 ug/kg
BROMOFORM	BDL	5 ug/kg
BROMOMETHANE	BDL	10 ug/kg
CARBON DISULFIDE	BDL	5 ug/kg
CARBON TETRACHLORIDE	BDL	5 ug/kg
CHLOROBENZENE	BDL	5 ug/kg
CHLOROETHANE	BDL	10 ug/kg
CHLOROFORM	BDL	5 ug/kg
CHLOROMETHANE	BDL	10 ug/kg
DIBROMOCHLOROMETHANE	BDL	5 ug/kg
CIS-1,3-DICHLOROPROPENE	BDL	5 ug/kg
DICHLORODIFLUOROMETHANE	BDL	5 ug/kg
1,1-DICHLOROETHANE	BDL	5 ug/kg
I,2-DICHLOROETHANE	BDL	5 ug/kg
1,1-DICHLOROETHENE	BDL	5 ug/kg
1,2-DICHLOROPROPANE	BOL	5 ugʻ/kg
THYLBENZENE	BDL	5 ug/kg
LUOROTRICHLOROMETHANE	BDL	5 ug/kg
2-HEXANONE	BDL	10 ug/kg
METHYLENE CHLORIDE	EST 5	5 ug/kg
METHYL ETHYL KETONE	BDL	10 ug/kg
4-METHYL-2-PENTANONE	BDL	10 ug/kg
TYRENE	BDL	5 ug/kg
,1,2,2-TETRACHLOROETHANE	BDL	5 ug/kg
TETRACHLOROETHENE	BDL	5 ug/kg
FETRAHYDROFURAN	BDL	25 ug/kg
TOLUENE	BDL	5 ug/kg
1,2-DICHLOROETHENE (TOTAL)	806	5 ug/kg

Parameter	Result	Det. Limit	Units
TRANS-1,3-DICHLOROPROPENE	BDL	5	ug/kg
,1,1-TRICHLOROETHANE	BDL	5	ug/kg
1,1,2-TRICHLOROETHANE	BDL	5	ug/kg
TRICHLOROETHENE	BDL	5	ug/kg
VINYL ACETATE	BDL	10	ug/kg
VINYL CHLORIDE	BDL	10	ug/kg
XYLENE (TOTAL)			ug/kg
SURROGATE RECOVERY			
DICHLOROETHANE-D4	110		% Rec
TOLUENE-D8	105		% Rec
BROMOFLUOROBENZENE	101		% Rec

GC/MS SONICATION EXTRACTION FOR ORGANICS SW846-35 Analyst: M. FRANK Analysis Date: 09-DEC-92	50	Test: P236.4.	.0
Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	30.0		Grams
FINAL VOLUME			III

SEMI-VOLATILE ORGANICS (BASE/NEUTRAL/ACID FRAC Analyst: J. MINNIEAR, II Analysis Date: 10-DEC-92 Inst Prep: GC/MS SONICATION EXTRACTION FOR ORGANICS SW846-3550 P236	Test: 0505.3	.0	
Parameter	Result	Det. Limit	Units
ACENAPHTHENE	BDL	330	ug/kg
ACENAPHTHYLENE	BDL	330	
THRACENE	BDL	330	ug/kg
NZ (A) ANTHRACENE	BDL	330	
BENZO(A)PYRENE	BDL	330	ug/kg
BENZO (B) FLUORANTHENE	BDL	330	ug/kg
BENZO(G,H,I)PERYLENE	BDL	330	ug/kg
BENZO(K)FLUORANTHENE	BDL	330	
BENZYL ALCOHOL	BDL	330	ug/kg
BENZYLBUTYLPHTHALATE	BDL	330	ug/kg
BIS(2-CHLOROETHOXY)METHANE	BDL	330	ug/kg
BIS(2-CHLOROETHYL)ETHER	BDL	330	ug/kg
BIS(2-CHLOROISOPROPYL)ETHER	BDL	330	ug/kg
BIS(2-ETHYLHEXYL)PHTHALATE	BDL	330	ug/kg
4-BROMOPHENYLPHENYLETHER	BDL	330	ug/kg
CARBAZOLE	BDL	330	ug/kg
4-CHLOROANILINE	BDL	330	ug/kg
2-CHLORONAPHTHALENE	BDL	330	
4-CHLOROPHENYLPHENYLETHER	BDL	330	ug/kg
CHRYSENE	BDL	330	ug/kg
DIBENZ(A,H)ANTHRACENE	BDL	330	ug/kg
DIBENZOFURAN	BDL	330	ug/kg
1,2-DICHLOROBENZENE	BDL	330	ug/kg
1,3-DICHLOROBENZENE	BDL	330	ug/kg
1,4-DICHLOROBENZENE	BDL	330	ug/kg
3,3'-DICHLOROBENZIDINE	BDL	660	ug/kg
DIETHYLPHTHALATE	BDL	330	ug/kg
^IMETHYLPHTHALATE	BDL	330	ug/kg
-N-BUTYLPHTHALATE	BDL	330	ug/kg
INITROBENZENES	BDL	330	ug/kg
2,4-DINITROTOLUENE	BDL	330	ug/kg
2,6-DINITROTOLUENE	BDL	330	
DI-N-OCTYLPHTHALATE	BDL	330	ug/kg

HERITAGE LABORATORIES, INC.

Lab Sample ID: A268670

Parameter FLUORANTHENE	Result BDL	Det. Limit 330	Units ug/kg
.UORENE	BDL	330	ug/kg
XACHLOROBENZENE	BDL	330	ug/kg
HEXACHLOROBUTADIENE	BDL	330	ug/kg
HEXACHLOROCYCLOPENTADIENE	BDL	330	ug/kg
HEXACHLOROETHANE	BDL	330	ug/kg
INDENO(1,2,3-CD)PYRENE	BDL	330	ug/kg
ISOPHORONE	BDL	330	ug/kg
2-METHYLNAPHTHALENE	BDL	330	ug/kg
NAPHTHALENE	BOL	330	
2 NITTOANTI INC	BDL	1600	ug/kg
2-NITROANILINE 3-NITROANILINE	BDL	1600	ug/kg
4-NITROANILINE	BDL	1600	
			ug/kg
NITROBENZENE N-NITROSO-DIPHENYLAMINE	BDL	330	ug/kg
	BDL	330	ug/kg
N-NITROSO-DI-N-PROPYLAMINE	BDL	330	ug/kg
PHENANTHRENE	BDL	330	ug/kg
2-PICOLINE	BDL	1600	ug/kg
PYRENE	BDL	330	ug/kg
PYRIDINE	BDL	1600	
TETRACHLOROBENZENES	BDL	330	ug/kg
FOLUENEDIAMINE	BDL	1600	ug/kg
I,2,4-TRICHLOROBENZENE	BDL	330	ug/kg
BENZOIC ACID	BDL	1600	ug/kg
I-CHLORO-3-METHYLPHENOL	BDL	330	ug/kg
2-CHLOROPHENOL	BDL	330	ug/kg
,4-DICHLOROPHENOL	BDL	330	ug/kg
4-DIMETHYLPHENOL	BDL	330	ug/kg
,,6-DINITRO-2-METHYLPHENOL	BDL	1600	ug/kg
2,4-DINITROPHENOL	BDL	1600	ug/kg
2-METHYLPHENOL	BDL	330	ug/kg
1-METHYLPHENOL	BDL	330	ug/kg
2-NITROPHENOL	BDL	330	ug/kg
I-NITROPHENOL	BDL	1600	ug/kg
PENTACHLOROPHENOL	BDL	1600	ug/kg
PHENOL	BDL		ug/kg
TETRACHLOROPHENOL	BDL	330	ug/kg
2,4,5-TRICHLOROPHENOL	BDL	1600	ug/kg
2,4,6-TRICHLOROPHENOL	BDL	330	ug/kg
SURROGATE RECOVERY			
2-FLUOROPHENOL	61		% Rec
PHENOL-D5	61		% Rec
MENOL+D5 NITROBENZENE-D5	90		
	98		% Rec
2-FLUOROBIPHENYL	103		% Rec
2,4,6-TRIBROMOPHENOL	37		% Rec
FERPHENYL-D14	112		% Rec

Sample Comments

BDL Below Detection Limit

EST Estimated Value

umple chain of custody number 16590.

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CERTIFICATE OF ANALYSIS

Γ	Service Location		Received	Project	Lab ID
	HERITAGE LABORATORIES,	INC.	08-DEC-92	1871	A268668
	7901 W. MORRIS ST.	· ·	Complete	PO N	umber
	INDIANAPOLIS, IN 46231		11-DEC-92	29-1	497
	(317)243-8305		Printed	Samp	led
			12-DEC-92	04-DEC-	92 16:55

Report To

STEVE KLEMM HERITAGE REMEDIATION/ENGINEERING, INC 5656 OPPORTUNITY DRIVE TOLEDO, OH 43612

Bill To

STEVE SMITH HERITAGE REMEDIATION/ENGINEERING, INC. 5656 OPPURTUNITY DRIVE TOLEDO, OH 43612

Sample Description

LOCATION: DUPONT AUTOMOTIVE FINISHES

SAMPLE ID: 002 SAMPLE DESCRIPTION: E-10-4 (WEST WALL)

DESCRIPTION

Analyst: R. SHAMP Analysis Date: 09-DEC-92 Instrument: GC/MS VOA		Des Limis III-is-
Parameter ACETONE	Result	Det. Limit Units 20 ug/kg
CROLEIN	BDL	50 ug/kg
RYLONITRILE	BDL	70 ug/kg
ENZENE	BDL	5 ug/kg
BROMODICHLOROMETHANE	BDL	5 ug/kg
BROMOFORM	BDL	5 ug/kg
BROMOMETHANE	BDL	10 ug/kg
ARBON DISULFIDE	BDL	5 ug/kg
CARBON DISOLFIDE	BDL	5 ug/kg
CHLOROBENZENE	BDL	5 ug/kg
CHLOROETHANE	BDL	10 ug/kg
HLOROFORM	BDL	5 ug/kg
HLOROMETHANE	BDL	10 ug/kg
) I BROMOCHLOROMETHANE	BDL	5 ug/kg
IS-1,3-DICHLOROPROPENE	BDL	5 ug/kg
ICHLORODIFLUOROMETHANE	BDL	5 ug/kg
,1-DICHLOROETHANE	BDL	5 ug/kg
,2-DICHLOROETHANE	BDL	5 ug/kg
,1-DICHLOROETHENE	BDL	5 ug/kg
,2-DICHLOROPROPANE	BDL	5 ug/kg
THYLBENZENE	BDL	5 ug/kg
LUOROTRICHLOROMETHANE	BDL	5 ug/kg
-HEXANONE	BDL	10 ug/kg
IETHYLENE CHLORIDE		5 ug/kg
IETHYL ETHYL KETONE	ËŜT 10	10 ug/kg
-METHYL-2-PENTANONE	BDL	10 ug/kg
TYRENE	BDL	5 ug/kg
,1,2,2-TETRACHLOROETHANE	BDL	5 ug/kg
ETRACHLOROETHENE	BDL	5 ug/kg
ETRAHYDROFURAN	BDL	25 ug/kg
OLUENE	BDL	5 ug/kg
1,2-DICHLOROETHENE (TOTAL)	BDL	5 ug/kg

1 (continued on next page) Page

Parameter	Result	Det. Limit	Units
TRANS-1,3-DICHLOROPROPENE	BDL	5	ug/kg
1,1-TRICHLOROETHANE	BDL	5	ug/kg
1,1,2-TRICHLOROETHANE	BDL	5	ug/kg
TRICHLOROETHENE	BDL	5	ug/kg
VINYL ACETATE	BDL	10	ug/kg
VINYL CHLORIDE	BDL	10	ug/kg
XYLENE (TOTAL)	I BDL	5	ug/kg

SURROGATE RECOVERY			
DICHLOROETHANE-D4 y'	105		% Rec
TOLUENE-D8			% Rec
BROMOFLUOROBENZENE	101		% Rec

GC/MS SONICATION EXTRACTION FOR ORGANICS SW846-35 Analyst: M. FRANK Analysis Date: 09-DEC-92	50	Test: P236.4.	0
Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	30.0		Grams
ETNE WALLE	• • • • • • • • • • • • • • • • • • • •		

SEMI-VOLATILE ORGANICS (BASE/NEUTRAL/ACID Analyst: J. MINNIEAR, II Analysis Date: 10-DEC-92 Prep: GC/MS SONICATION EXTRACTION FOR ORGANICS SW846-35!	Test: 0505.3.0	
Parameter	Result	Det. Limit Units
ACENAPHTHENE	BDL	330 ug/kg
ACENAPHTHYLENE	BDL	330 ug/kg
**'THRACENE	BDL	330 ug/kg
NZ (A) ANTHRACENE	BDL	330 ug/kg
bENZO(A)PYRENE	BDL	330 ug/kg
BENZO(B)FLUORANTHENE	BDL	330 ug/kg
BENZO(G,H,I)PERYLENE	BDL	330 ug/kg
BENZO(K)FLUORANTHENE	BDL	330 ug/kg
BENZYL ALCOHOL	BDL	330 ug/kg
BENZYLBUTYLPHTHALATE	BDL	330 ug/kg
BIS(2-CHLOROETHOXY)METHANE	BDL	330 ug/kg
BIS(2-CHLOROETHYL)ETHER	BDL	330 ug/kg
BIS(2-CHLOROISOPROPYL)ETHER	BDL	330 ug/kg
BIS(2-ETHYLHEXYL)PHTHALATE	BDL	330 ug/kg
4-BROMOPHENYLPHENYLETHER	BDL	330 ug/kg
CARBAZOLE	BDL	330 ug/kg
4-CHLOROANILINE	BDL	330 ug/kg
2-CHLORONAPHTHALENE	BDL	330 ug̃/kg
4-CHLOROPHENYLPHENYLETHER	BDL	330 ug/kg
CHRYSENE	BDL	330 ug/kg
DIBENZ(A,H)ANTHRACENE	BDL	330 ug/kg
DIBENZÒFÚRÁN	BDL	330 ug/kg
1,2-DICHLOROBENZENE	BDL	330 ug/kg
1,3-DICHLOROBENZENE	BDL	330 ug/kg
1,4-DICHLOROBENZENE	BDL	330 ug/kg
3,3'-DICHLOROBENZIDINE	BDL	660 ug/kg
DIETHYLPHTHALATE	BDL	330 ug/kg
DIMETHYLPHTHALATE	BDL	330 ug/kg
-N-BUTYLPHTHALATE	BDL	330 ug/kg
NITROBENZENES	BDL	330 ug/kg
2,4-DINITROTOLUENE	BDL	330 ug/kg
2,6-DINITROTOLUENE	BDL	330 ug/kg
DI-N-OCTYLPHTHALATE	BDL	330 ug/kg

Parameter TLUORANTHENE	Result BDL	Det. Limit 330	Units ug/kg
UORENE	BDL	330	J/ ''J
HEXACHLOROBENZENE	BDL	330	
			·····
HEXACHLOROBUTADIENE	BDL	330	
HEXACHLOROCYCLOPENTADIENE	BDL	330	
HEXACHLOROETHANE	BDL	330	J, J
INDENO(1,2,3-CD)PYRENE	BDL	330	ug/kg
ISOPHORONE	BDL	330	
2-METHYLNAPHTHALENE	BDL	330	ug/kg
NAPHTHALENE	BDL	330	0, 0,
2-NITROANILINE ,	BDL	1600	ug/kg
3-NITROANILINE	BDL	1600	ug/kg
4-NITROANILINE	BDL	1600	ug/kg
NITROBENZENE	BDL	330	ug/kg
N-NITROSO-DIPHENYLAMINE	BDL	330	ug/kg
N-NITROSO-DI-N-PROPYLAMINE	BDL	330	
PHENANTHRENE	BDL	330	ug/kg
2-PICOLINE	BDL		ug/kg
PYRENE	BDL	330	ug/kg
PYRIDINE	BDL	1600	
TETRACHLOROBENZENES	BDL	330	ug/kg
TOLUENEDIAMINE	BDL		ug/kg
1,2,4-TRICHLOROBENZENE	BDL	330	ug/kg
BENZOIC ACID	BDL		ug/kg
4-CHLORO-3-METHYLPHENOL	BDL	330	
2-CHLOROPHENOL	BDL		ug/kg
		330	ug/kg
4-DICHLOROPHENOL	BDL	330	ug/kg
,4-DIMETHYLPHENOL	BDL	330	ug/kg
4,6-DINITRO-2-METHYLPHENOL	BDL	1600	ug/kg
2,4-DINITROPHENOL	BDL		ug/kg
2-METHYLPHENOL	BDL	330	ug/kg
4-METHYLPHENOL	BDL		ug/kg
2-NITROPHENOL	BDL	330	ug/kg
4-NITROPHENOL	BDL		ug/kg
PENTACHLOROPHENOL	BDL	1600	ug/kg
PHENOL	BDL	330	ug/kg
TETRACHLOROPHENOL	BDL	330	ug/kg
2,4,5-TRICHLOROPHENOL	BDL		ug/kg
2,4,6-TRICHLOROPHENOL	BDL	330	ug/kg
SURROGATE RECOVERY			
2-FLUOROPHENOL	61		% Rec
PHENOL-D5	87		% Rec
NITROBENZENE-D5	100		% Rec
2-FLUOROBIPHENYL	104		% Rec
2,4,6-TRIBROMOPHENOL	43		% Rec
TERPHENYL-D14	150		% Rec

BDL Below Detection Limit

ample chain of custody number 16590.

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Lab Sample ID: A268671

Sample Comments

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CERTIFICATE ANALYSIS 0 F

. Service Location	Received	Project	Lab ID
HERITAGE LABORATORIES, INC.	08-DEC-92	1871	A268667
, 7901 W. MORRIS ST.	Complete	PO N	umber
INDIANAPOLIS, IN 46231	11-DEC-92	29-1	497
(317)243-8305	Printed	Samp	led
	12-DEC-92	04-DEC-	92 16:50

Report To

STEVE KLEMM HERITAGE REMEDIATION/ENGINEERING, INC 5656 OPPORTUNITY DRIVE TOLEDO, OH 43612

Bill To

STEVE SMITH HERITAGE REMEDIATION/ENGINEERING, INC. 5656 OPPURTUNITY DRIVE TOLEDO, OH 43612

Sample Description

LOCATION: DUPONT AUTOMOTIVE FINISHES

SAMPLE ID: 001 SAMPLE DESCRIPTION: C-0-2 (SOUTH WALL)

DESCRIPTION

DEC 1 6 RECD

Parameter	Result	Det. Limit	Units
CETONE	70		ug/kg
CROLEIN	BDL		ug/kg
RYLONITRILE	BDL		ug/kg
ENZENE	BDL		ug/kg
ROMODICHLOROMETHANE	BDL		ug/kg
ROMOFORM	BDL		ug/kg
ROMOMETHANE	BDL		ug/kg
ARBON DISULFIDE	BDL		ug/kg
ARBON TETRACHLORIDE	BDL		ug/kg
HLOROBENZENE	BDL		ug/kg
HLOROETHANE	BDL		ug/kg
HLOROFORM	BDL		ug/kg
HLOROMETHANE	BDL		ug/kg
IBROMOCHLOROMETHANE	BDL	5	ug/kg
IS-1,3-DICHLOROPROPENE	BDL	5	ug/kg
ICHLORODIFLUOROMETHANE	BDL		ug/kg
,1-DICHLOROETHANE	BDL	5	ug/kg
,2-DICHLOROETHANE	BDL	5	ug/kg
,1-DICHLOROETHENE	BDL	5	ug/kg
,2-DICHLOROPROPANE	BDL	5	ug/kg
THYLBENZENE	BDL	5 5	ug/kg
LUOROTRICHLOROMETHANE	BDL	5	ug/kg
-HEXANONE	BDL		ug/kg
ETHYLENE CHLORIDE	9		ug/kg
ETHYL ETHYL KETONE	22		ug/kg
-METHYL-2-PENTANONE	BDL		ug/kg
TYRENE	BDL		ug/kg
1,2,2-TETRACHLOROETHANE	BDL		ug/kg
TRACHLOROETHENE	BDL		ug/kg
ETRAHYDROFURAN	BDL		ug/kg
OLUENE	12		ug/kg

Parameter	Result	Det. Limit	Units
TRANS-1,3-DICHLOROPROPENE	BDL	j 5.	ug/kg
,1,1-TRICHLOROETHANE	BDL	5	ug/kg
1,1,2-TRICHLOROETHANE	BDL	5	ug/kg
TRICHLOROETHENE	1 BDL	5	ug/kg
VINYL ACETATE	BDL	10	ug/kg
VINYL CHLORIDE	BDL	10	ug/kg
XYLENE (TOTAL)	BDL	5	ug/kg
SURROGATE RECOVERY		i i	
DICHLOROETHANE-D4	102		% Rec
TOLUENE-D8	100		% Rec
BROMOFLUOROBENZENE	102		% Rec

GC/MS SONICATION EXTRACTION FOR ORGANICS SW846-35 Analyst: M. FRANK Analysis Date: 09-DEC-92	50	Test: P236.4	.0
Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	30.0		Grams
FINAL VOLUME			mL

SEMI-VOLATILE ORGANICS (BASE/NEUTRAL/AC Analyst: J. MINNIEAR, II Analysis Date: 10-DEC- Prep: GC/MS SONICATION EXTRACTION FOR ORGANICS SW846	Test: 0505.3.0	
Parameter ACENAPHTHENE	Result BDL	Det. Limit Units 330 ug/kg
NCENAPHTHYLENE	BDL	330 ug/kg
ITHRACENE	BDL	330 ug/kg
NZ(A)ANTHRACENE	BDL	330 ug/kg
BENZO(A) PYRENE	BDL	330 ug/kg
BENZO(B) FLUORANTHENE	BDL	330 ug/kg
BENZO(G,H,I)PERYLENE	BDL	330 ug/kg
BENZO (K.) FLUORANTHENE	BDL	330 ug/kg
SENZYL ALCOHOL	BDL	330 ug/kg
ENZYLBUTYLPHTHALATE	BOL	330 ug/kg
IS(2-CHLOROETHOXY)METHANE	BDL	330 ug/kg
IS(2-CHLOROETHYL)ÉTHER	BDL	330 ug/kg
IS(2-CHLOROISOPROPYL)ETHER	BDL	330 ug/kg
IS(2-ETHYLHEXYL)PHTHALATE	BDL	330 ug/kg
-BROMOPHENYLPHENYLETHER	BDL	330 ug/kg
ARBAZOLE	BDL	330 ug/kg
-CHLOROANILINE	BDL	330 ug/kg
-CHLORONAPHTHALENE	BDL	330 ug/kg
-CHLOROPHENYLPHENYLETHER	BDL	330 ug/kg
HRYSENE	BDL	330 ug/kg
IBENZ(A,H)ANTHRACENE	BDL	330 ug/kg
IBENZOFURAN	BDL	330 ug/kg
,2-DICHLOROBENZENE	BDL	330 ug/kg
,3-DICHLOROBENZENE	BDL	330 ug/kg
,4-DICHLOROBENZENE	BDL	330 ug/kg
,3'-DICHLOROBENZIDINE	BDL	660 ug/kg
IETHYLPHTHALATE	BDL	330 ug/kg
IMETHYLPHTHALATE	BDL	330 ug/kg
I-N-BUTYLPHTHALATE	BDL	330 ug/kg
INITROBENZENES	BDL	330 ug/kg
,4-DINITROTOLUENE	BDL	330 ug/kg
,6-DINITROTOLUENE	BDL	330 ug/kg
I-N-OCTYLPHTHALATE	BDL	330 ug/kg

HERITAGE LABORATORIES, INC.

Lab Sample ID: A268672

Parameter	Result	Det. Limit		
LUORANTHENE	BDL		Units ug/kg	
UORENE	BDL	330	ug/kg ug/ka	
HEXACHLOROBENZENE	BDL			
HEXACHLOROBENZENE	BDL	· · · · · · · · · · · · · · · · · · ·	ug/kg	
to control the final control c	· · · · · · · · · · · · · · · ·		ug/kg	
HEXACHLOROCYCLOPENTADIENE	BDL		ıg/kg	
HEXACHLOROETHANE TABLES OF THE STATE OF THE	BDL		ug/kg	
INDENO(1,2,3-CD)PYRENE	BDL		ıg/kg	
ISOPHORONE	BDL		ıg/kg	
2-METHYLNAPHTHALENE	BDL		ıg/kg	
NAPHTHALENE ,	BDL		1g/kg	
2-NITROANILINE '	BDL		ıg/kg	
3-NITROANILINE	BDL		ıg/kg	
4-NITROANILINE	BDL		ıg/kg	
NITROBENZENE	BDL		ıg/kg	
N-NITROSO-DIPHENYLAMINE	BDL		ıg/kg	
N-NITROSO-DI-N-PROPYLAMINE	BDL		ıg/kg	
PHENANTHRENE	BDL	330 \	ıg/kg	
2-PICOLINE	BDL		ıg/kg	
PYRENE	BDL		ıg/kg	
PYRIDINE	BDL		ıg/kg	
TETRACHLOROBENZENES	BDL		ıg/kg	
TOLUENEDIAMINE	BDL		ıg/kg	
1,2,4-TRICHLOROBENZENE	BDL		ıg/kg	
BENZOIC ACID	BDL		ıg/kg	
4-CHLORO-3-METHYLPHENOL	BDL		ıg/kg	
2-CHLOROPHENOL	BDL		ıg/kg	
4-DICHLOROPHENOL	BDL		ıg/kg	
,4-DIMETHYLPHENOL	BDL		ig/kg	
4,6-DINITRO-2-METHYLPHENOL	BDL		ig/kg	
2,4-DINITROPHENOL	BDL		ig/kg	
2-METHYLPHENOL	BDL		ig/kg	
4-METHYLPHENOL	BDL		ig/kg	
2-NITROPHENOL	BDL		ig/kg	
4-NITROPHENOL	BDL		ig/kg	
PENTACHLOROPHENOL	BDL		ig/kg	
PHENOL	BDL			
		330 t	ig/kg	
TETRACHLOROPHENOL	BDL		ıg/kg	
2,4,5-TRICHLOROPHENOL	BDL		ıg/kg	
2,4,6-TRICHLOROPHENOL	BDL	330 ι	ıg/kg	
SURROGATE RECOVERY				
A 5/10000015101				
2-FLUOROPHENOL	74		Rec .	
PHENOL-D5	86		& Rec	
NITROBENZENE-D5	87		& Rec	
2-FLUOROBIPHENYL	90		& Rec	
2,4,6-TRIBROMOPHENOL	73	9	& Rec	
TERPHENYL-D14	128		& Rec	

Sample Comments

BDL Below Detection Limit

umple chain of custody number 16590.

IDEM Drinking Water Certification Number C-49-01

Sample Comments

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Additional copies of this report sent to: JOE RITCHIE, HERITAGE REMEDIATION/ENGINEERING, INC. 5656 OPPORTUNITY DRIVE, TOLEDO, OH 43612

William

CERTIFICATE OF ANALYSIS

Service Location HERITAGE LABORATORIES, INC.	Received 08-DEC-92	Project 1871	Lab 10 A268673
)01 W. MORRIS ST. IDIANAPOLIS, IN 46231 (317)243-8305	Complete 15-DEC-92	ра н 29- <u>1</u>	unber 497
	Printed	Samp	
	<u>16-DEC-92</u>	04-DEC-	92 17:40

Report To

Bill To

STEVE KLEMM HERITAGE REMEDIATION/ENGINEERING, INC 5656 OPPORTUNITY DRIVE **TOLEDO, OH 43612**

STEVE SMITH HERITAGE REMEDIATION/ENGINEERING, INC. 5656 OPPURTUNITY DRIVE TOLEDO, OH 43612

Sample Description

LOCATION: DUPONT AUTOMOTIVE FINISHES

SAMPLE ID: 007
SAMPLE DESCRIPTION: WATER IN EXCAVATION

DESCRIPTION

VOLATI E ORGANICS SUBA6	92/1	200	a a company	
	Analysis Date; 09-550-72% Institute	NET OCCUPANTAL	Test: 0510.3	0
Pari	eter production and the second	Result	Det. Limit	Units
ACETONE	1. (1. (1. (1. (1. (1. (1. (1. (1. (1. (BDL	20	ug/L
ACROLEIN		BOL	50	ug/L
RYLONITRILE		BDL	70	ug/L
HZENE	W W 1	801	5.0	ug/L
BROMODICHLOROMETHANE	in the second of	BOL	5	ug/L
BRONDFORM		BOL		ug/L
BROMOMETHANE	NOTE THE STATE OF	BDL	10	ug/L
CARBON DISULFIDE	W 100 100 100 100 100 100 100 100 100 10	BOL	5	ug/L
CARBON TETRACHLORIDE		BDL	5 5	ug/L
CHLOROBENZENE		BOL		ug/L
CHLOROETHANE		BOL	10	ug/L
CHLOROFORM		BDL	5	ug/L
CHLOROMETHANE		8DL	10	ug/L
DIBROMOCHEOROMETHANE		BDL		ug/L
CIS-1,3-DICHLOROPROPENE		BDL	5	ug/L
DICHLORODIFLUOROMETHANE		BDL	•	ug/L
1,1-DICHLOROETHANE		BDL	5	ug/L
1,2-DICHLORGETHANE		BDL		ug/L
1,1-DICHLOROETHENE		BDL	5	ug/L
1.2-DICHLOROPROPANE		BOL		ug/L
ETHYLBENZENE ELUOROTRICHLOROMETHANE		26	5	ug/L
2-HEXANONE		800		ug/L
METHYLENE CHLORIDE		BOL BOL	10	ug/L
METHYL ETHYL KETONE		BOL	5 10	ug/L
4=METHYE=2=PENTANONE		: BDI	10	ug/L
STYRENE		BDL	5	ug/L ug/L
* I.VZ VZ TETRACHEOROETHAN	d C	80L	5	ug/L
TRACHLOROETHENE	N.	BDL	5	ug/L
ETRAHYDROFURAN		BOL BOL	25	
TOLUENE		BDL	5	ug/L
1-2-DICHLOROETHENE (TOTA		801		ug/L ug/L
THE BUILDING THE TOTAL		DUL		201

1 (continued on next page) Page

HERITAGE LABORATORIES, INC.

Perameter	Result	Det. Limit	Units
TRANS-1,3-DICHLOROPROPENE	BDL	5	ug/L
THE TRUCHLOROFTHANE	BDL	5	ug/L
1,2-TRICHLOROETHANE	BDL	5	110/
1,2-TRICHLOROETHANE	BOL		ug/L
VINYL ACETATE	IBUL	10	ug/L
VINYL CHLORIDE	BOL	10	ug/L
XYLENE (TOTAL)	190	5	ug/L
***		**************************************	
SURROGATE RECOVERY			
SURROUNTE RESSERT	100		# D
DICHLOROETHANE-D4	100	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	% Rec
TOLUENE-DB	102		
BROMOFLUOROBENZENE	106	<u> </u>	% Rec
PH=6			

GC/MS:SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION ANAlyses U. UNITE AMELYSIS Date: 09-0EC-92	SV846-3510	T#\$1: P233:4	ø
Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	1000		mL
FINAL VOLUME		***************************************	m

roslynt G. Right Analysis D Prap: Schmesppartory Rimbel Cidiolic Ligh	ater (1 der 52 Hattigen 19 gerkagnen sen 2358	133 A 6	18811-003-3	
Parameter		Result	Det. Limit	Unite
CENAPHTHENE		BDL	10	ug/L
ENAPHTHYLENE -		861	10	ug/L
THRACENE		BDL	10	ug/L
ENZ(A)ANTHRACENE			10	ug/L
ENZO(A)PYRENE		BOL	10	ug/L
NZO(B) FLUORANTHENE	Wijamasaa	BOL	10	ug/L
ENZO(G.H.I)PERYLENE	A ALL THE CONTROL OF	BOL	10	ug/L
ENZO(K) FLUORANTHENE		-80	10	ug/L
ENZYL ALCOHOL	***************************************	BOL	10	ug/L
ENZY EBUTY EPHTHALATE		BOL	10	ug/L
IS(2-CHLOROETHOXY)METHANE		BDL	10	ug/L
IS 2 CHEOROETHY SETHER		BOL	10	ug/L
IS(2-CHLOROISOPROPYL)ETHER		BDL	10	ug/L
IS(2-ETHYLHEXYL)PHTHALATE		BDL	10	ug/L
IS(2-CHLOROISOPROPYL)ETHER IS(2-ETHYLHEXYL)PHTHALATE -BROMOPHENYLPHENYLETHER		BDL	10	ug/L
ARBAZOLE		BDL	10	ug/L
-CHLOROANILINE		BDL	10	ug/L
-CHLORONAPHTHALENE		BDI	10	
-CHLOROPHENYLPHENYLETHER		BDL	10	ug/L
HRYSENE		BDL	10	ug/L
IBENZ(A,H)ANTHRACENE		BDL	10	ug/L
IBENZOFURAN		BDL	10	ug/L
, 2-DICHLOROBENZENE		BDL	10	ug/L
, 2-DICHLOROBENZENE , 3-DICHLOROBENZENE		BDL	10	
, 4-DICHLOROBENZENE		BDL	10	ug/L
,3'-OICHLOROBENZIDINE		BOL	20	
IETHYLPHTHALATE	•	BDL	10	ug/L
NETHYLPHTHALATE		BOL	10	
N-BUTYLPHTHALATE		BDL	10	
INITROBENZENES		BDŁ	56	
,4-DINITROTOLUENE		BDL	10	ug/L

0		Lab Sample ID: A26867
Parameter 2,6-DINITROTOLUENE	Result BDL	Det. Limit Units
N-OCTYLPHTHALATE	BOL	10 ug/L
UORANTHENE		10 ug/L
LUCRENE	BDL	10 ug/L
HEXACHLOROBENZENE	BOL	10 ug/L
	BDL	10 ug/L
HEXACHLOROBUTADIENE	BOL	10 ug/L
HEXACHLOROCYCLOPENTADIENE	BDL	10 ug/L
HEXACHLOROETHANE	BDL	10 ug/L
INDENO(1,2,3-CD)PYRENE	BDL	10 ug/L
I SOPHORONE	BOL	10 ug/L
2-METHYLNAPHTHALENE	BDL	10 ug/L
NAPHTHALENE	BDL	10 ug/L
2-NITROANILINE	BDL	50 ug/L
3-NITROANILINE	BDL	50 ug/L
4-NITROANILINE	BDL	50 ug/L
NITROBENZENE	801	10 ug/L
N-NITROSO-DIPHENYLAMINE	BDL	10 ug/L
N=NITROSO=DI=N-PROPYLAMINE	BDL	10 ug/L
PHENANTHRENE	BDL	10 ug/L
2-PICOLINE	BDL	50 ug/L
PYRENE	BDL	10 ug/L
PYRIDINE	BDL	50 ug/L
TETRACHLOROBENZENES	BDL	10 ug/L
FOLUENEDIAMINE	BOL	50 ug/L
1,2,4-TRICHLOROBENZENE	BDL	10 ug/L
SENZOIC ACED WHO	BDL	50 ug/L
I-CHLORO-3-METHYLPHENOL	BOL	10 ug/L
HEOROPHENOL	BOL	10 ŭg/L
4-DICHLOROPHENOL		10 ug/L
2.4-DIMETHYLPHENOL	BDL	
.6-DINITRO-2-METHYLPHENOL	BDL	10 ug/L 50 ug/L
2,4-DINITROPHENOL	BOL BOL	
2-METHYLPHENOL		
I-METHYLPHENOL	BOT	10 ug/L
2-NITROPHENOL	BDL	10 ug/L
-NITROPHENOL	BDE	50 ug/L
PENTACHLOROPHENOL	BDL	50 ug/L
ZION3HS	BDL	10 ug/L
retrachlorophe n ol	BDL	10 ug/L
2,4,5-TRICHLOROPHENOL	BDŁ	50 ug/L
2,4,6-TRICHLOROPHENOL	BDL	10 ug/L
SURROGATE RECOVERY		

2-FLUOROPHENOL	58	% Rec
HENOL-D5	40	% Rec
NITROBENZENE-D5	112	% Rec
2-FLUOROBIPHENYL	ĬĬĨ	% Rec
2.4.6-TRIBROMOPHENOL	82	% Rec
2,4,6-TRIBROMOPHENOL TERPHENYL+D14	139	% Rec

Below Detection Limit

sample chain of custody number 16590.

IDEM Drinking Water Certification Number C-49-0]
its Certificate shall not be reproduced, except in full, 'thout the written approval of the lab.

Additional copies of this report sent to: JOE RITCHIE, HERITAGE REMEDIATION/ENGINEERING, INC. 5656 OPPORTUNITY DRIVE, TOLEDO, OH 43612

Quality Assurance Officer:

ABusch

CERTIFICATE OF ANALYSIS

Service Location ERITAGE LABORATORIES, INC.	Received	Project	Lab ID
	08~DEC-92	1871	A268674
901 W. MORRIS ST.	Complete		Amber
INDIANAPOLIS, IN 46231	15-DEC-92		497
(317)243-8305	Printed 16-DEC-92	8am 04 - DEC -	92 17:50

Report To

STEVE KLEMM HERITAGE REMEDIATION/ENGINEERING, INC 5656 OPPORTUNITY DRIVE TOLEDO, OH 43612

Bill To

STEVE SMITH HERITAGE REMEDIATION/ENGINEERING, INC. 5656 OPPURTUNITY DRIVE TOLEDO, OH 43612

Sample Description

LOCATION: DUPONT AUTOMOTIVE FINISHES

SAMPLE ID: 008 SAMPLE DESCRIPTION: TRIP BLANK

DESCRIPTION

Analysis E. Shaw	Analysia Despi (\$94) EC \$2	CHARLES CONTRACTOR	774417 0510.3.0		
Per	aneter in grant	Result	Det. Limit	Units	
CETONE	1.000 7. 41.00 40 41.00 40 41.00 40	BDL	20	ug/L	
CROLEIN		- 30 1	50	ug/L	
RYLONITRILE		BDL	70	ug/L	
ENZENE	and the state of t	801	5	ug/L	
ROMODICHLOROMETHANE		BDL	5 5	ug/L	
RONOFORM		BDL		ug/L	
ROMOMETHANE	to the first of the second second	BOL	10	ug/L	
ARBON DISULFIDE	A HILL	80	5	ug/L	
ARBON TETRACHLORIDE	one distribution de la company de la comp	BOL	5 5	ug/L	
HLOROBENZENE		BDL		ug/L	
HLOROETHANE		BDL	10	ug/L	
HLOROFORM		BDL		ug/L	
HLOROMETHANE		BDL	10	ug/L	
IBROMOCHLOROMETHANE		BDL	5	ng/F	
IS-1,3-DICHLOROPROPENE		BDL	5 5	ug/L	
ICHLORODIFLUOROMETHANE		BDL		ug/L	
,1-DICHLOROETHANE		BDL	5	ug/L	
, 2-DI CHLORGETHANE	**************************************	801		ug/L	
,1-DICHLOROETHENE		BDL	5	ug/L	
, 2 DICHLOROPROPANE		BDF	5	ug/L	
THYLBENZENE		BDL	5 5	ug/L	
LUOROTRICHLOROMETHANE		BDL		ug/L	
-HEXANONE		BDL	10	ug/L	
ETHYLENE CHLORIDE		BDL BDL	10	ug/L	
ETHYL ETHYL KETONE	······································	BDL	10 10	ug/L	
-METHYL-2-PENTAHONE		BDL BDL	5	ug/L ug/L	
TYRENE			5	ug/L	
.1,2,2-TETRACHLOROETHA	W.F.	801	5	ug/L	
ETRACHLOROETHENE		BDL BDL	25		
ETRAHYDROFURAN		······································	5	ug/L	
OLUENE		BDL	j j	ug/L ug/L	

1 (continued on next page)

				
Parameter	Resul t	Det.	Limit	Units
TRANS-1,3-DICHLOROPROPENE	BOL		5	ug/L
, 1, 1 TRICHLOROETHANE	80£		 5	ug/L
.1.2-TRICHLOROETHANE	I ROL		5	ua/1
TRICHLOROETHENE	BDL			ug/L
VINYL ACETATE	I BDL		10	ug/L
VINYL CHLORIDE	BOL		10	ug/L
XYI FNF (TOTAL)	I RNI		ξ.	un/1
AND COLOR OF THE C				
I SURRUGATE RECUVERY				
DICHLOROETHANE-D4	100			% Rec
TOLUENE-D8	98			* Rec
BROMOFLUOROBENZENE	105			% Rec

GC/MS. SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3610 ANALYSE: NEWHITE Analysis Date: 09:000:92							
Parameter	Result	Det. Limit	Units				
INITIAL WEIGHT OR VOLUME	1000		mL				
FINAL VOLUME							

SEMI-VOLATILE ORGANICS (BASE/NEUTRAL/ACID FRACTIONS) SW846-8270 ANNIVACIOS MAGNE AMNIVATA DARRE 11-DEC-72 INSTRUMENTE GC/ME SYCA PROPI GU/ME MEPARATORY FRANCE LIGHID-LIGHID EXTRACTION 59846-3510 P233 4.0			Tests: 0505;37.0		
ACENAPHTHENE Paramete		Result BDL	Det. Limit	Units	
ACENAPHTHYLENE	t de la companya de l	BDL	10	ug/L	
ANTHRACENE	The Transfer of St.	-	10	ug/L	
NZ (A) ANTHRACENE		BDL BDL	10 10	ug/L	
LNZO(A)PYRENE		T BOL	10		
BENZO(B)FLUORANTHENE				ug/L ug/L	
BENZO(G,H,I)PERYLENE	Alicentini (de 1900) de 1900 (de 1900) Alicentini	BDL	10	ug/L	
BENZO(K) FLUORANTHENE	7) y 11	30L		ug/L	
BENZYL ALCOHOL		BOL	10	ug/L	
BENZYLBUTYEPHTHALATE	1 , 100 mpetro, 100 m,	- B0L		ug/L	
BIS(2-CHLOROETHOXY)METHANE		BDL	10	ug/L	
BIS (2-CHLOROETHYL) ETHER		BDL		ug/L	
STS (2-CHI OROTSOPROPYI) FTHE	3	BDL	10	ug/L	
BIS(2-CHLOROISOPRÓPYL)ETHER BIS(2-ETHYLHEXYL)PHTHALATE		801		ug/L	
-BROMOPHENYLPHENYLETHER		BDL	10	ug/L	
CARBAZOLE		BDL		ug/L	
-CHLOROANILINE		BDL	10	ug/L	
2-CHLORONAPHTHALENE		BDL		ug/L	
4-CHLOROPHENYLPHENYLETHER		BDL	10	ug/L	
CHRYSENE		BOL	io	ug/L	
DIBENZ(A,H)ANTHRACENE		BDL	10	ug/L	
DIBENZÓFURÁN		BDL	10	ug/L	
1,2-DICHLOROBENZENE		BDL	10	ug/L	
1.3-DICHLOROBENZENE		BDL		ug/L	
1,4-DICHLOROBENZENE		BDL	10	ug/L	
3.3/-DICHLOROBENZIDINE		804		ug/L	
DIETHYLPHTHALATE		BOL	10	ug/L	
DIMETHYLPHTHALATE		BDL	10		
-N-BUTYLPHTHALATE		BOL	10	ug/L	
NITROBENZENES		BDL	50	ug/L	
2,4-DINITROTOLUENE		BDL	10	ug/L	
2,6-DINITROTOLUENE		BDL	16	ug/L	
DI-N-OCTYLPHTHALATE		BDL	10	ug/L	

HERITAGE LABORATORIES. INC.

Parameter	Result		nita
FLUORANTHENE	BDL	10 ug/	L
JURENE	BOL	LO ug/	
XACHLOROBENZENE	BDL	10 ug/	
HEXACHLOROBUTADI ENE	BOL	10 ug/	
HEXACHLOROCYCLOPENTADIENE	BDL	10 ug/	
IEXACHLOROETHANE	BOL	10 ug/	
INDENO(1,2,3-CD)PYRENE	BDL	10 ug/	L
ISOPHORONE	BDL	10 ug/	
2-METHYLNAPHTHALENE	BDL	10 ug/	
IAPHTHALENE	BDL	10 ug/	1
2-NITROANILINE	BDL	50 ug/	L
3-HITROANILINE	BOL	50 ug/	L
I-NITROANILINE	BDL	50 ug/	L
VITROBENZENE	BDL	10 ug/	
I-NITROSO-DIPHENYLAMINE	BDL	10 ug/	L
N-NITROSO-DI-N-PROPYLAMINE	BDL	10 ug/	
PHENANTHRENE	BDL	10 ug/	
2-PICOLINE	3 04	50 ug/	
PYRENE	BDL	10 ug/	L
PYRIDINE	BOL	50 ug/	
TETRACHLOROBENZENES	BDL	10 ug/	
OLUENEDIANINE	BDL	50 ug/	L
.2.4-TRICHLOROBENZENE	BOL	10 ug/	
IENZOIC ACID		50 ug/	
I-CHLORO-3-METHYLPHENOL	BDL	10 ug/	L.
2-CHEOROPHENOL CHEOROPHENOL	BDL	10 ug/	
,4-DICHLOROPHENOL	BDL	10 ug/	
	30 1	10 ug/	
4,6-DINITRO-2-METHYLPHENOL	BDL	50 ug/	'L
2,4-DINITROPHENOL	80	50 ug/	
2-METHYLPHENOL	BDL	10 ug/	'L
(-METHYLPHENOL	30L	10 ug/	
2-NITROPHENOL	BDL	10 ug/	
MITROPHENOL	30	50 ug/	
PENTACHLOROPHENOL	BDL	50 ug/	'L
PHENOL	301	ið ug/	
TETRACHLOROPHENOL	BOL	10 ug/	Ĺ
2,4,5-TRICHLOROPHENDL	801	50 ug/	
2,4,6-TRICHLOROPHENOL	BDL	10 ug/	'L
-1-10 INTOILEMENT			
SURROGATE RECOVERY			
2-FLUOROPHENOL	RO.	% [Rec
	80 48		
PHENOL-D5		% 1	
NITROBENZENE-D5	112		
2-FLUOROBIPHENYL	107	7	
2,4,6-TRIBROMOPHENOL	110		
TERPHENYL-DI4	136		***

Sample Commonts

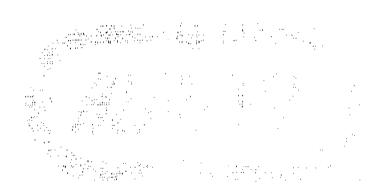
BDL Below Detection Limit

ample chain of custody number 16590.

IDEM Drinking Water Certification Number C-49-01

This Certificate shall not be reproduced, except in full, without the written approval of the lab.

Additional copies of this report sent to: JOE RITCHIE, HERITAGE REMEDIATION/ENGINEERING, INC. 5656 OPPORTUNITY DRIVE, TOLEDO, OH 43612



WASTE STORAGE TANK
CLOSURE REPORT
TANK # W-1
E.I. DUPONT DE NEMOURS & CO.
TOLEDO AP PLANT

PREPARED FOR:

E.I. DUPONT DE NEMOURS & CO.
TOLEDO AP PLANT
1930 TREMAINSVILLE ROAD
TOLEDO, OHIO 43613
419-478-1211

PREPARED BY:

HERITAGE ENVIRONMENTAL SERVICES, INC. 5656 OPPORTUNITY DRIVE TOLEDO OH 43612-2922

April 18, 1995



HAZARDOUS WASTE

WASTE STORAGE TANK

CLOSURE REPORT

TANK # W-1

E.I. DUPONT DE NEMOURS & CO.

TOLEDO AP PLANT

PREPARED FOR:

E.I. duPont de Nemours & Co.
Toledo AP Plant
1930 Tremainsville Road
Toledo, Ohio 43613

PREPARED BY:

Heritage Environmental Services, Inc. 5656 Opportunity Drive Toledo, Ohio 43612-2922

April 18, 1995

WASTE STORAGE TAMK
CLOSURE REPORT
TAMK # W-1
E.I. DUPONT DE MEMOURS & CO.
TOLEDO AP PLANT

PREPARED FOR:

E.I. DUPONT DE NEMOURS & CO.
TOLEDO AP PLANT
1930 TREMAINSVILLE ROAD
TOLEDO, OHIO 43613
419-478-1211

PREPARED BY:

HERITAGE ENVIRONMENTAL SERVICES, INC. 5656 OPPORTUNITY DRIVE TOLEDO OH 43612-2922

April 18, 1995

WASTE STORAGE TANK CLOSURE REPORT FOR TANK # W-1

E.I. DUPONT DE NEMOURS & CO. TOLEDO AP PLANT 1930 TREMAINSVILLE ROAD TOLEDO, OH 43613

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1.0 INTRODUCTION

1.1 Closure Plan

The activities described herein were conducted in accordance with generally accepted industry standards of closure for tanks once containing hazardous wastes. The "clean" standards used for this project were referenced in the site closure plan which describes closure activities for all of the Toledo Automotive Plant areas. The tank referenced in this report was not specifically mentioned in that plan. No attempt was made to evaluate or clean the containment barrier wall or flooring surrounding Tank W-1.

1.2 FACILITY DESCRIPTION

The E. I. duPont de Nemours & Co., Inc. facility (DUPONT) manufactured automotive paints and resins. These processes or activities generate various wastes as described in Section 3.0 of the Hazardous Waste Storage Facility Part B Closure Plan dated May 19, 1992. The facility is located in Toledo, Lucas County, Ohio and is bordered by Harris Street and Jackman Rd. to the east, Tremainsville Rd. to the south, and railroad tracks to the west and north (See Figure 1). The Facility is approximately 17 acres in size.

1.3 TANK # W-1 AND SECONDARY CONTAINMENT DESCRIPTION

Tank # W-1 was cylindrical with a cone-shaped bottom and dome shaped top. It was constructed in 1988 of carbon steel which is approximately 3/16" thick on the sides and on the top. The sides are 80" tall, and the tank is 56" in diameter. The tank was operated at atmospheric pressure, and was vented through a conservation/flame arrestor vent.

The tank had four angle-iron legs, each 2.5 feet long. The legs were mounted on the concrete floor of the containment area. The tank was located inside its own dike with poured concrete walls and floor, which had a capacity of approximately 1,200 gallons.

Prior to closure the tank was used to store dirty wash solvent from equipment cleaning processes in the paint manufacturing area.

2. CLOSURE ACTIVITIES

2.1 TANK # W-1 DECONTAMINATION AND DEMOLITION

On February 6, 1995, Heritage employees used in this project who had not been previously certified by DUPONT's safety department participated in DUPONT's contractor safety program. The following sections describe the decontamination procedures followed for the closure of the tank.

2.1.1 Tank # W-1 Decontamination

On February 6, 1995, following safety training, Heritage personnel set up plastic around the tank and containment area. All inflow lines to the tank were disconnected and blanked according to DUPONT safety procedures. The tank manway was removed and the tank was force vented using a pneumatic air blower/evacuator connected to the vent stack. The tank atmosphere was tested using a LEL/O₂ meter and solids were shoveled from the tank. The solids were placed into a 55 gallon open top drum. One drum of solids was generated during this process. Initial power wash was conducted from outside of the tank (without entry) and an additional 1.5 drums of rinseate was produced.

On February 7, 1995, Heritage personnel following both Heritage and DUPONT confined space permit procedures entered the tank and completed three pressure wash rinses of the tank interior. Plant tap water was used as the source of rinse water for this project. An additional 6.5 drums of rinseate was produced from the day's activities for a total of 8 drums of rinseate and 1 drum of solids from this tank.

Rinseate from the third rinse was collected in the tank bottom and sampled prior to removal from the tank. The sample was collected in four 1-liter sample jars equipped with teflon septa, sealed, placed on ice, and immediately hand delivered to Jones and Henry Laboratory in Northwood, Ohio. A sample of the "source" tap water was taken from the spigot, collected in appropriate containers, sealed, and delivered in the same manner at the same time.

2.1.2 Tank W-1 Demolition

On March 31, 1995, following review of rinseate analytical results, HERITAGE personnel removed the tank from the containment area after first removing the support legs. The tank was transported to a storage area outside of the building on DUPONT property and rendered useless by using a cutting torch to cut 2 X 2 foot holes in either end of the tank.

2.2 <u>DETAILS OF SAMPLING AND ANALYSIS</u>

On February 7, 1995 HERITAGE personnel collected samples of rinseate water from the third rinse of the tank. The following section describes the details of sample collection and analyses.

2.2.1 Sampling and Analysis Rinseate From Tank # W-1

On February 7, 1995, following the third pressure washing, a sample was taken of the rinseate by closing the bottom valve on the tank drain and allowing rinse water to pool in the tank bottom. The water was then collected into four 1 liter laboratory sample jars. A sample was also collected of the plant tap water directly from the spigot. This sample was labeled "source water (tap)". Sampling was performed by Mr. Scott Mills of Heritage. Samples were labeled and placed in a cooler containing ice. The samples were hand delivered to Jones and Henry Laboratory in Northwood, Ohio.

The tank rinseate sample was sent for TCLP volatiles, TCLP semi-volatiles and TCLP metals (10) and was given the laboratory designation of AC33949. The source water was tested for purgeable halocarbons, purgeable aromatics, semivolatiles and 10 total metals and was given the laboratory designation AC33950. All laboratory methodologies are provided in table 1.

2.3 SUMMARY OF ANALYTICAL RESULTS

The closure plan stipulated that the final rinseates must meet or exceed:

- Fifteen times the public drinking water MCL for hazardous waste constituents.
- If an MCL is not available for a particular contaminant, then fifteen times the MCLG.
- If a product of fifteen time the MCL or MCLG exceeds 1 mg/liter or if neither an MCL or MCLG is available for a particular contaminant, 1 mg/liter shall be used as the clean standard.

The analytical results from tank rinseate are summarized in Table 2. Also included are the clean standards as determined from the approved site closure plan and federal maximum contaminant levels (MCLs). In summary, both organic compounds and inorganic compounds were identified in the source water and not detected in the rinseate water, however, it should be noted that the detection limit for the rinseate water was higher due to the TCLP extraction procedures. In any event all detected

concentrations were lower than the approved clean standard described. Although four constituents tested for in the rinseate had laboratory detection limits above the clean standards as defined above the results of the rinseate testing were compared to RCRA clean standards for debris and are well below the acceptable limits. Copies of the laboratory data sheets are included in Appendix I.

Therefore, Tank # W-1 is considered within the EPA Clean Standard and may be disposed of or sold as scrap. At the time of preparation of this closure plan the tank had not been scraped or disposed.

Table 1. Summary of Analyses and Analytical Methods

ANALYSIS	METHOD (rinseate)	METHOD (source water)
TCLP Extraction	EPA 1311	na
TCLP Volatiles	EPA 8010, 8020, 8015	na
TCLP Phenolics/Base Neutrals	EPA 8270	na
Purgeable Halocarbons	na	EPA 601/8010
Purgeable Aromatics	na	EPA 602/8020
Semi-Volatile by GC/MS	na	EPA 625/8270
Arsenic	SW846-7060	SW846-7060
Barium	SW846-7080	SW846-6010
Cadmium	SW846-7130	SW846-7130
Chromium	SW846-7190	SW846-7190
Copper	SW846-7210	SW846-7210
Lead	SW846-7420	SW846-7420
Mercury	SW846-7470	SW-846-7470
Selenium	SW846-7740	SW-846-7740
Silver	SW846-7760A	SW846-7760
Zinc	SW846-7950	SW846-7950

na = not applicable

Table 2 Analytical Data for Tank W-1 Closure.

Constituent	MCL mg/t	MCLG mg/£	Clean Standard mg/L	Tank Rinscate mg/£	Source Water mg/L
Lab. Sample No.			AC33949	AC33950	
		Metais			
Arsenic (As)	0.050	NA	0.750	<0.04	< 0.004
Barium (Ba)	2.000	NA	1.000	<4.000	< 0.050
Cadmium (Cd)	0.005	0.005	0.080	<0.100	<0.002
Copper (Cu)	1.3001	NA	1.000	<0.200	<0.005
Chromium (Cr)	0.010	0.01	0.150	<0.200	< 0.050
Lead (Pb)	0.015	NA	0.230	<0.200	<0.050
Mercury (Hg)	0.002	0.002	0.030	<0.004	< 0.0002
Selenium (Se)	0.050	0.05	0.750	<0.040	<0.008
Silver (Ag)	0.050	NA	0.750	<0.200	< 0.005
Zinc (Zn)	5.000 ¹	NA	1.000	<0.200	<0.005
		Volatile Organ	nics		
Benzene	0.005	NA	0.080	<0.050	< 0.001
1,4-dichlorobenzene	0.060	0.60	0.900	<0.050	< 0.001
Chlorobenzene	0.100	0.10	1.000	<0.050	< 0.005
Tetrachloroethene	0.005	0.00	0.080	<0.050	< 0.001
Methyl Ethyl Ketone	NA	NA	1.000	<0.050	0.0096
1,2-dichloroethane	0.005	NA	0.080	<0.050	< 0.001
Trichloroethene	0.005	NA	0.080	<0.050	< 0.001
1,1-dichloroethene	0.007	NA	0.110	< 0.050	< 0.001
1,2-dichloroethane	0.070	0.07	1.000	< 0.050	< 0.001
Vinyl Chloride	0.002	NA	0.030	< 0.020	< 0.005
Carbon Tetrachloride	0.005	NA	0.080	< 0.050	< 0.001
Chloroform	NA	NA	1.000	<0.050	0.011
	Phenolics/Ba	se Neutrals/Semi	-Volatile Organics		
o-Cresol	NA	NA	1.000	<0.400	< 0.400
m+p Cresol	NA	NA	1.000	< 0.400	< 0.400
Pentachlorophenol	0.015	NA	0.450	<0.400	<0.400
2,4,5-Trichlorophenol	NA	NA	1.000	<0.400	<0.400
2,4,6-Trichlorophenol	NA	NA	1.000	<0.400	<0.400
1,4-Dichlorobenzene	NA	NA	1.000	<0.200	< 0.200
2,4-Dinitrotoluene	NA	NA	1.000	<0.070	< 0.070
Hexachlorobenzene	0.001	NA	0.015	< 0.050	< 0.050
Hexachlorobutadiene	NA	NA	1.000	<0.100	<0.100
Hexachloroethane	NA	NA	1.000	<0.100	<0.100
Nitrobenzene	NA	NA	1.000	<0.100	<0.100
Pyridine	NA	NA	1.000	<0.200	<0.200

¹ From Secondary MCL, NA - Not Available, NM - Not Measured, < 0.002 - below detection limit of 0.002 ppm Shaded blocks indicate laboratory detection limit above clean standard

2.4 CERTIFICATION

MANAGEMENT APPROVAL

This Closure has been performed as herein described.

George E Com

Signature

Name and Title

George Cross Plant Supervisor

CERTIFICATION

I hereby certify that, although not specifically identified in the site closure plan, this tank has been decontaminated and dismantled in general accordance with the approved procedures listed in that document and as described in this report.

Keith D. Wherley, CPG

Printed Name of Certified Professional Geologist

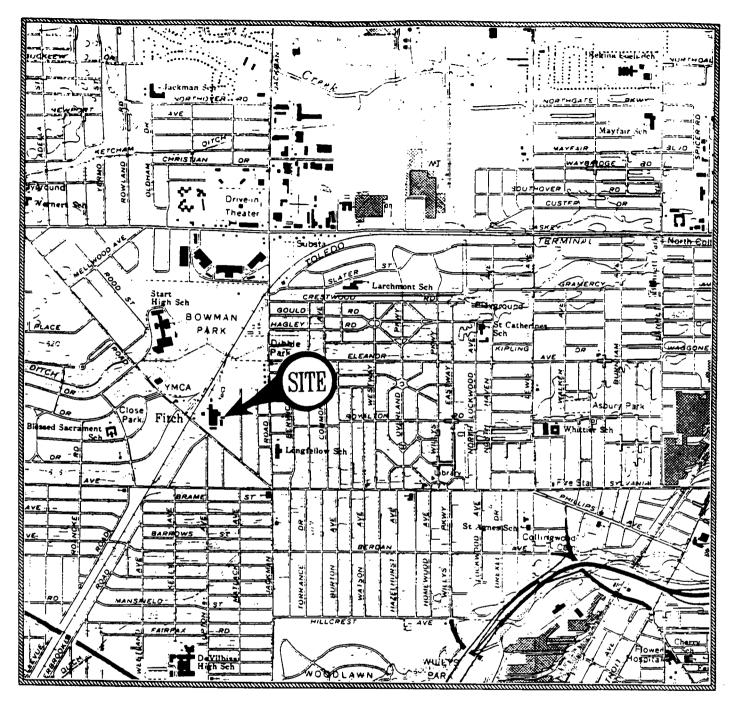
Signature of Certified Professional Geologist

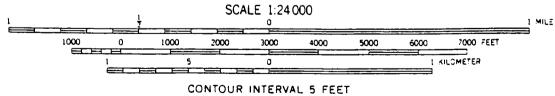
9274 Certificate Number AIPG AIPG PROFESSIONAL PROFESSI

(seal)

date: 4/18/95

ATTACHMENT 1 AREA MAP

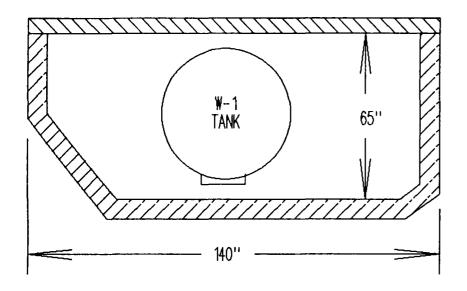




SITE LOCATION MAP
DuPont AP Plant
1930 Tremainsville Road

TOLEDO, OHIO
From U.S.G.S
7.5 Minute
Topographic Quadrangle

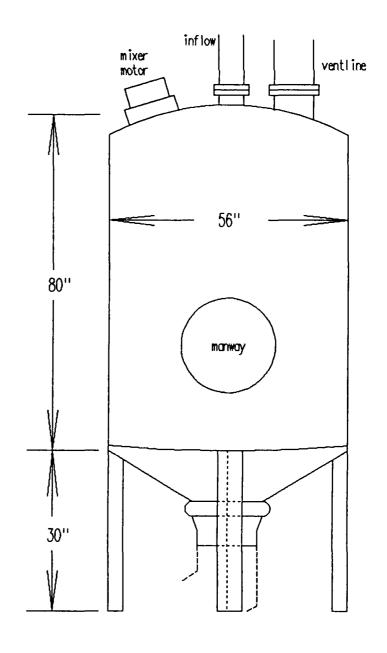
ATTACHMENT 2 SKETCH OF TANK #W-1 AND DIKE



NOTE: DIKE WALL IS 30" HIGH MADE OF POURED CONCRETE

Figure 2

TANK AND CONTAINMENT									
DuPont AP Plant									
1930 Tremainsville Road Toledo, Ohio									
HERITAGE ENVIRONME 5656 OPPORT TOLEDO, O	HERITAGE								
REVISION: 001	DRAWN BY: KDW								
SOUTE: NILZ	ож с ю. 4079f2	APPROVED BY:							



APPENDIX I ANALYTICAL DATA REPORTS



FEB 2 1 1995

JONES & HENRY LABORATORIES, INC. / 2567 TRACY ROAD, NORTHWOOD, OHIO 43619 / (419) 666-0411

February 17, 1995

To:

Heritage Remediation/ Engineering, Inc. 5656 Opportunity Drive Toledo, Ohio 43612 ATTN: Mr. Bob Bourne

The following analytical results have been obtained for the indicated sample which was submitted to this laboratory:

Sample I.D. AC33950

Purchase order number: 64079

Location Description: Source Water (tap)

Sample collector: CLIENT

Lab submittal date: 02/07/95

Received by: JK

Location code: HRE

Project account code: 310

Time: 14:18

Sample collection date: 02/07/95

Validated by: FD

Parameter: ARSENIC

Method reference: 206.2/7060

Result: Not detected Date started: 02/10/95

Time started:

Parameter: BARIUM

Method reference: 200.7/6010

Result: Not detected Date started: 02/14/95

Time started:

Parameter: CADMIUM

Method reference: 213.1/7130

Result: Not detected Date started: 02/13/95

Time started:

Parameter: CHROMIUM

Method reference: 218.1/7190

Result: Not detected Date started: 02/13/95

Time started:

Parameter: COPPER

Method reference: 220.1/7210

Result: Not detected Date started: 02/13/95

Time started:

Unit: mg/L

MDL or sensitivity: 0.004 Date finished: 02/10/95

Analyst: JH

Unit: mg/L

MDL or sensitivity: 0.05 Date finished: 02/14/95

Analyst: JG

Unit: mg/L

MDL or sensitivity: 0.002 Date finished: 02/13/95

Analyst: PL

Unit: mg/L

MDL or sensitivity: 0.050 Date finished: 02/13/95

Analyst: PL

Unit: mg/L

MDL or sensitivity: 0.005 Date finished: 02/13/95

Analyst: PL

Heritage Remediation/ Sample I.D. AC33950 (continued)

Page: 2

February 17, 1995

Parameter: LEAD

Method reference: 239.1/7420

Result: Not detected Date started: 02/13/95

Time started:

Parameter: MERCURY

Method reference: 245.1/7470

Result: Not detected Date started: 02/08/95

Time started:

Parameter: SILVER

Method reference: 272.1/7760

Result: Not detected Date started: 02/13/95

Time started:

Parameter: SELENIUM

Method reference: 270.2/7740

Result: Not detected
Date started: 02/17/95

Time started:

Multimg/L
MDL or sensitivity: 0.008
Date finished: 02/17/95
Analyst: JH

Parameter: ZINC

Method reference: 289.1/7950

Result: 0.025 mg/L Date started: 02/13/95

Time started:

Parameter: PURGEABLE HALOCARBONS

Method reference: EPA 601/8010

Result: see below

Date started: 02/08/95

Time started:

Parameter: PURGEABLE AROMATICS

Method reference: EPA 602/8020

Result: see below

Date started: 02/08/95

Time started:

Parameter: SEMIVOLATILES by GC/MS 625/8270

Method reference: EPA 625/8270 Unit: ug/L

Result: see below

Date started: 02/13/95

Time started:

Unit: mg/L

Analyst: PL

Unit: mg/L

Unit: mg/L

Analyst: PL

Analyst: PL

Unit: ug/L

Analyst: NS

Unit: ug/L

Analyst: NS

MDL or sensitivity: 0.05 Date finished: 02/13/95

MDL or sensitivity: 0.0002 Date finished: 02/08/95 Analyst: PL

MDL or sensitivity: 0.005

MDL or sensitivity: 0.005

Date finished: 02/13/95

Date finished: 02/08/95

Date finished: 02/08/95

Date finished: 02/13/95

Date finished: 02/13/95

Analyst: JR

Data for PURGEABLE HALOCARBONS ug/L:

Component Name CARBON TETRACHLORIDE

CHLOROBENZENE

Result

Component MDL

Not detected 1.0 Not detected 5.0

Heritage Remediation/ Sample I.D. AC33950 (continued)

Page: 3

February 17, 1995

Data for PURGEABLE HALOCARBONS (continued):

Component Name	Result	Component MDL
CHLOROFORM	11	1.0
1,2-DICHLOROETHANE	Not detected	1.0
1,1-DICHLOROETHENE	Not detected	1.0
TETRACHLOROETHENE	Not detected	1.0
TRICHLOROETHENE	Not detected	1.0
VINYL CHLORIDE	Not detected	5.0

Data for PURGEABLE AROMATICS ug/L:

Component Name	Result	Component MDL
BENZENE	Not detected	1.0
1,4-DICHLOROBENZENE	Not detected	1.0
METHYL ETHYL KETONE	9.6	1.0

Data for SEMIVOLATILES by GC/MS 625/8270 ug/L:

Sample comments:

Project #64079 DuPont Waste Tank #1 Closure.

If there are any questions regarding this data, please call.

Fred W. Doering

President



JONES & HENRY LABORATORIES, INC. / 2567 TRACY ROAD, NORTHWOOD, OHIO 43619 / (419) 666-0411 February 17, 1995

To:

Heritage Remediation/ Engineering, Inc. 5656 Opportunity Drive Toledo, Ohio 43612 ATTN: Mr. Bob Bourne

The following analytical results have been obtained for the indicated sample which was submitted to this laboratory:

Sample I.D. AC33949

Location code: HRE

Purchase order number: 64079

Project account code: 310

Location Description: Rinsate Water - Tank W-1

Sample collector: CLIENT

Sample collection date: 02/07/95

Lab submittal date: 02/07/95

Received by: JK

Time: 14:02

Unit:

Validated by: FD

Parameter: TCLP NON-VOLATILE EXTRACTION

Method reference: BPA 1311

Result: Completed

MDL or sensitivity:

Date started: 02/09/95

Date finished: 02/09/95

Time started:

Analyst: CF

Parameter: TCLP METALS (MI)

Method reference: EPA7000

Result: see below

Date started: 02/14/95 Time started:

Date finished: 02/16/95

Analyst: PL

Unit: mg/L

Parameter: TCLP ZERO HEADSPACE EXTRACTION

Method reference: EPA 1311

Result: Completed

MDL or sensitivity:

Date started: 02/09/95

Date finished: 02/09/95

Date finished: 02/13/95

Time started:

Analyst: CF

Parameter: TCLP VOLATILES

Method reference: 80-10,20,15

Unit: mg/L

Result: see below

Date started: 02/10/95

Date finished: 02/10/95

Time started:

Analyst: NS

Parameter: TCLP PHENOLICS/BASE NEUTRALS

Method reference: EPA8270

Unit: mg/L

Result: see below

Date started: 02/10/95

Time started:

Analyst: JR

Heritage Remediation/ Sample I.D. AC33949 (continued)

Page: 2

February 17, 1995

Data for TCLP METALS (MI) mg/L:

Component Name	Result	Component MDL
ARSENIC	Not detected	0.04
BARIUM	Not detected	4.0
CADMIUM	Not detected	0.1
CHROMIUM	Not detected	0.2
COPPER	Not detected	0.2
LEAD	Not detected	0.2
MERCURY	Not detected	0.004
SELENIUM	Not detected	0.04
SILVER	Not detected	0.2
ZINC	Not detected	0.2

Data for TCLP VOLATILES mg/L:

Component Name BENZENE CARBON TETRACHLORIDE CHLOROBENZENE CHLOROFORM 1,4-DICHLOROBENZENE 1,2-DICHLOROETHANE 1,1-DICHLOROETHENE METHYL ETHYL KETONE TETRACHLOROETHENE	Result Not detected	Component MDL 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.0
TETRACHLOROETHENE	Not detected	0.05
TRICHLOROETHENE	Not detected	0.05
VINYL CHLORIDE	Not detected	0.02

Data for TCLP PHENOLICS/BASE NEUTRALS mg/L:

Component Name o-CRESOL m+p-CRESOL PENTACHLOROPHENOL 2,4,5-TRICHLOROPHENOL 2,4,6-TRICHLOROPHENOL 1,4-DICHLOROBENZENE 2,4-DINITROTOLUENE HEXACHLOROBENZENE HEXACHLOROBUTADIENE	Result Not detected	0.05 0.1

Sample comments:

TCLP metals are determined by standard addition.

Project #64079 DuPont Waste Tank #1 Closure.

Heritage Remediation/ Sample I.D. AC33949 (continued) Page: 3
February 17, 1995

If there are any questions regarding this data, please call.

Fred W. Doering

President



CHAIN OF CUSTODY RECORD PROJECT NAME PROJ. NO. Du Pont Waste Tank #1 Closure 64079 NO. SAMPLERS: (Signature) OF **REMARKS** CON-**TAINERS** TIME DATE STATION LOCATION STA. NO. Ringe Water from lebste Tonk 4-19%. No Pesticides or Herbicides 13/1/4/12:50 2-40m1 3/7/8 13:02 2 Belinquished by: (Signature) Relinquished by: (Signature) Received by: (Signature) Date / Time Received by: (Signature) Relinquished by: (Signature) Relinquished by: (Signature) Received by: (Signature) Received by: (Signatura) Date / Time Relinquished by: (Signature) Date / Time Received for Laboratory by: Remarks

HAZARDOUS WASTE

STORAGE FACILITY

PART B CLOSURE REPORT

TANKS # C-2 and C-4

E.I. DUPONT DE NEMOURS & CO.

TOLEDO AP PLANT

PREPARED FOR:

E.I. DuPont de Nemours & Co. Toledo AP Plant 1930 Tremainsville Road Toledo, Ohio 43613

PREPARED BY:

Heritage Remediation/Engineering, Inc. 5656 Opportunity Drive Toledo, Ohio 43612-2922

September 24, 1993



HERITAGE REMEDIATION/ENGINEERING, INC.

HERITAGE .

5656 Opportunity Drive Toledo, OH 43612 Phone: 419/478-4396 FAX: 419/478-4560

October 6, 1993

RECEIVED

OCT 8 7 1993

OHIO S.S.A.

Mr. Michael Terpinski
Ohio Environmental Protection Agency
Northwest District Office
Division of Solid and Hazardous Waste Management
347 N. Dunbridge Road
Bowling Green, OH 43402-0466

Re:

DuPont Automotive Products

1930 Tremainsville Rd. Toledo, Ohio 43613 Closure Report for Tanks #C-2 and C-4 HR/E Project No. 63025

Dear Mr. Terpinski:

Attached is the closure report for Tanks # C-2 and C-4 located at the DuPont Automotive Product Plant in Toledo, Ohio. This report is provided at Ms. Denise Trabbic-Pointer's request. If you have any questions or comments, do not hesitate to contact us.

Sincerely,

Heritage Remediation/Engineering, Inc.

Joseph D. Ritchey, P.E. Sr. Project Engineer

attachment

cc: Denise Trabbic-Pointer

93JR0065.T4



HAZARDOUS WASTE STORAGE FACILITY

PART B CLOSURE REPORT

TANKS # C-2 and C-4

E.I. DUPONT DE NEMOURS & CO.

TOLEDO AP PLANT

PREPARED FOR:

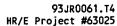
E.I. DUPONT DE NEMOURS & CO.
TOLEDO AP PLANT
1930 TREMAINSVILLE ROAD
TOLEDO, OHIO 43613
419-478-1211

PREPARED BY:

HERITAGE REMEDIATION/ENGINEERING, INC. 5656 OPPORTUNITY DRIVE TOLEDO OH 43612-2922

Certified By:

Joseph D. Ritchey, P.E. Ohio Reg. No. E-53107 September 24, 1993



HAZARDOUS WASTE STORAGE FACILITY PART B CLOSURE REPORT FOR TANKS # C-2 and C-4

E.I. DUPONT DE NEMOURS & CO. TOLEDO AP PLANT 1930 TREMAINSVILLE ROAD TOLEDO, OH 43613

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1.0 INTRODUCTION

1.1 CLOSURE PLAN

The activities described herein were conducted in accordance with the approved Hazardous Waste Storage Facility Part B Closure Plan dated May 19, 1992. The referenced plan describes closure activities for areas regulated by the Resource Conservation and Recovery Act (RCRA). Closure of the tanks described in this report were not specifically described in the above referenced closure plan. However, closure of the tanks has been performed consistent with the approved plan. all of the Toledo AP Plant areas including Tanks # C-4 and C-4.

1.2 FACILITY DESCRIPTION

The E. I. DuPont de Nemours & Co., Inc. facility manufactures automotive paints and resins. These processes or activities generate various wastes as described in Section 3.0 of the Hazardous Waste Storage Facility Part B Closure Plan dated May 19, 1992. The facility is located in Toledo, Lucas County, Ohio and is bordered by Harris Street and Jackman Rd. to the east, Tremainsville Rd. to the south, and railroad tracks to the west and north (See Figure 1). The Facility is approximately 17 acres in size.

1.3 TANKS # C-2 AND C-4 DESCRIPTION

Tanks # C-2 and C-4 are each cylindrical with a flat bottom. The tanks are each fabricated of stainless steel. The tanks are 12.5 feet tall, and they are approximately 11 feet in diameter. Each tank has side and top entry manways.

The tanks each had a reported capacity of 10,152 gallons.

The tanks were reported to be used for waste water containing listed hazardous waste codes F-003 and F-005 for the five years prior to closure the tank. The tanks were also reported to contain castor oil as represented in a Material Safety Data Sheet (MSDS) presented in Appendix 1.

2. CLOSURE ACTIVITIES

2.1 TANK #C-2 and C-4 DECONTAMINATION

On August 19, 1993 HR/E personnel set up an equipment trailer, air compressor, drum vacuum unit and cold pressure washer for cleaning the tanks. Remaining waste water from the tanks last use was removed using a pneumatically powered vacuum unit and placed in 550 gallon portable totes. Following monitoring using an oxygen/explosion meter, HR/E personnel entered the tank under supplied breathing air. Work continued on August 20 and August 23, 1993. Sludge was removed from the tank bottom using the vacuum unit and placed in eight 55 gallon drums. The tanks were washed and rinsed using a high pressure power washer. Wash/rinse water was supplied from a faucet located in an adjacent building housing fire protection equipment. Three separate rinses were performed on each tank. Rinse water was collected using the vacuum equipment and stored in 550 gallon portable totes used for containing the waste water. Sludge collected was transported to the Rineco disposal facility located in Benton, Arkansas. Waste water and rinse water collected was transported to the Ross Incineration facility located in Grafton, Ohio. Waste manifests are provided in Appendix 2.

2.2 SAMPLING

On August 23, 1993, following the third pressure washing, a sample was collect from the final rinse from each tank using new plastic "dust" pans. The collected water was transferred to two 40 mil. glass vials and one 16 oz. glass jar as appropriate for analysis. A sample was collected of the plant tap water from the faucet. This sample was labeled "tap water used in rinse". A sample was also collected of plant deionized (DI) water that was transferred from its shipping container to two 40 mil. glass vials proximate to tanks # C-2 and C-4. This sample was labeled "DI Water Filled in Room". This activity was performed to evaluate possible sorption of airborne organic compounds by the water during sampling.

Sampling was performed by Jay Romstadt, Dan Wherley and Joe Ritchey of HR/E. Samples were labeled and placed in a cooler containing ice. The samples were shipped via UPS over night to Heritage Laboratories, Inc. in Indianapolis, Indiana.

Appendix 3 includes a copy of the certificates of analysis and the completed Chain-of-Custody form.

2.3 ANALYSIS

Analyses performed on collected samples are summarized in Table 1. Tank risneate samples were analyzed for RCRA regulated volatile organic compounds (VOCs) and semi-volatile organic (SVOCs) compounds using USEPA Method SW846-8240 and 8270, respectively. Analyses were also performed to evaluate the presence of any of the RCRA "F" listed alcohols using method SW846-8015.

Table 1	. Summaı	cy of	Analyses	and	Analytical	Methods
---------	----------	-------	----------	-----	------------	---------

SAMPLE	ANALYSIS	METHOD
Final Tank C-2 Rinseate	VOCs, SVOCs, RCRA Alcohols	SW846-8240, 2870, 8015
Final Tank C-4 Rinseate	VOCs, SVOCs, RCRA Alcohols	SW846-8240, 8270,8015
Tap Water Used in Rinse	VOCs	SW846-8240
DI Water Filled in Room	VOCs	SW846-8240
Trip Blank	VOCs	SW846-8240

The closure plan stipulated that the final rinseates must meet or exceed:

- Fifteen times the public drinking water MCL for hazardous waste constituents.
- If an MCL is not available for a particular contaminant, then fifteen times the MCLG.
- If a product of fifteen time the MCL or MCLG exceeds 1 mg/liter or if neither an MCL or MCLG is not available for a particular contaminant, 1 mg/liter shall be used as the clean standard.

The analytical results from the tank risneate samples are summarized in Table 2. Also included are the clean standards as determined from the approved closure plan and federal maximum contaminant levels (MCLs). In summary, a few organic compounds were identified in the water from various sources, however, all detectable compounds were at levels at or below the clean standard.

Therefore, tanks # C-2 and C-4 are considered with in the EPA Clean Standard and may be made available for some other use.

Cognituent	PVC	PCT MGLQ	Clean Standard mg/2	TK # G- 2 Final Kinerate 10 \$/\$	TK # C- Final Rimecate mg/E	Tap Water Used in Rinse mg/£	DI Water Filled in Room mg/L
Labs Kample Nes	September of the septem	A the state of the	en egyprophilips yng dy dae grote Geges grolg ty geneg trei prophilips yn de gant yn d Geneg trei gegeg geneg trei prophilips yn trei yn de Geneg trei dae geneg geneg trei yn de gant yn de gant yn de gant yn dae gant yn da	A287942	:: A287943	A287944	A287945
	William Commence of the second	-Volatile	Ottshica			AND SECURE AND SECURE	Season of the Sea
Ethylbenzene	0,700	0.70		0.008	~~ 0.067.~~	< 0.005	< 0.005
Toluene	1.000	1.00	1.000	<0.005	0.044	< 0.005	< 0.005
Total Xylenes	10.000	10.00	1.000	0.046	0.290	<0.005	<0.005
Accione	NA	NA	1.000	0:130	0.170	< 0.020	< 0.020
Browodichloromethane	NA	NA	1.000	< 0.005	< 0.005	0.009	< 0.005
Chloroform	NA	NA	1.000	< 0.005	< 0.005	0.025	< 0.005
Service and the service and th	the application of the second	Semi-Vola	ile Organics			•	
Di(N-butyi)phthalate	NA	NA	1.000	<0.010	0.006	NM	NM
Bis(2-EH)phthalate	0.004	NA	0.060	0.013	0.007	NM	NM
2-Methylnapthalene	NA	NA	1.000	<0.010	0.005	NM	NM
The property of the property o	on of the principality of the control of the contro	Àlé	uhols	The state of the s	en Parales (L. 1) Alternation (L. 1)		4 1 1 104 1 1 1
Metherol	NA	NA	1.000		1,000	NM	NM

[&]quot;A - Not Applicable, NM . Not Measured

CERTIFICATION

MANAGEMENT APPROVAL

is Closure has been performed as herein described.

Signature

- Toledo Plant Manager Name and Title Mr. Samuel

CERTIFICATION

provisions of 40 CFR, Part 264.115/OAC 3745-66-15, attest that this closure has been preformed in accordance with the approved closure plan.

JOSEPH Printed Name of Registered Preform I hereby certify that I have examined the facility and being familiar with

Server Se RITCHEY * JONAL

Date:

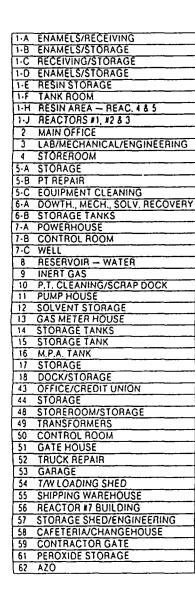
Registered Professional Engineer

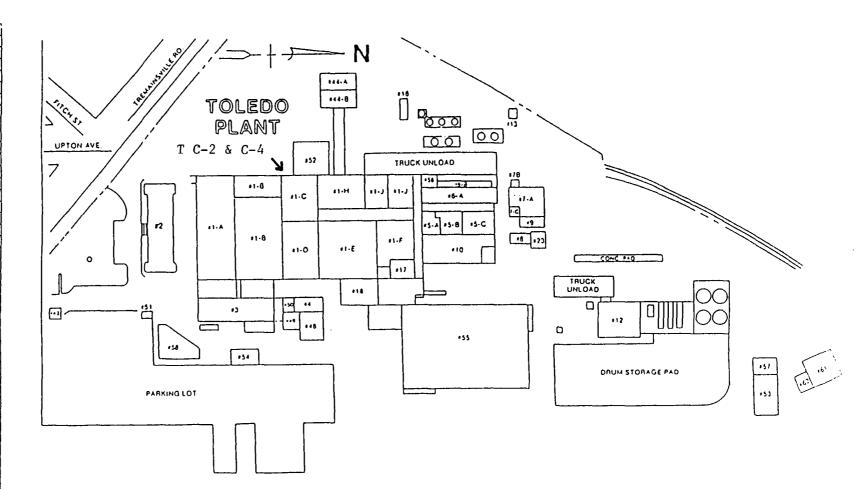
E-53107 Registration No.

Revistan 0.0 9/24/93

93JR0061.T4 HR/E Project #63025 ATTACHMENT 1

AREA MAP





APPENDIX 1
MSDS FOR CASTOR OIL

What used to be in C-2 and C-4

MATERIAL IDENTIFICATION

CASTOR OIL

MSDS NUMBER

: 04215565

CORPORATE NUMBER : 04213363

Revision Date

: 28-Feb-92

Date Printed

: 11-Aug-93

MANUFACTURER/DISTRIBUTOR

MORTON INTERNATIONAL

MOTOR OIL, INC.

PHONE NUMBERS

TRANSPORT EMERGENCY: CHEMTREC: 1-800-424-9300

MEDICAL EMERGENCY : 1-800-441-3637

CAS NUMBER

: 8001-79-4

TSCA INVENTORY STATUS : Reported/Included

NPCA-HMIS RATINGS : Health: 1 Flammability: 1 Reactivity: 0

Personal Protection rating to be supplied by

user depending on use conditions.

<u>Material</u> CASTOR OIL (RICINUS OIL) CAS Number 8001-79-4

<u>ઢ</u> 100

PHYSICAL DATA

Boiling Point : ~313 deg C (~595 deg F) 1 ATM

Vapor Pressure : >0.1 mm Hg at 25 deg C (77 deg F)

Volatiles : <1 WT %

Water Solubility : Insoluble

Odor : Mild fatty
Form : Liquid emulsion
Color : Pale yellow

Specific Gravity: 0.959

HAZARDOUS REACTIVITY

Instability: Stable at normal temperatures and storage conditions.
Incompatibility: Incompatible with oxidizing agents and acids.
Decomposition: Decomposes with heat. Hazardous gases/vapors

produced are smoke, soot, carbon monoxide and carbon

dioxide.

Polymerization : Polymerization will not occur.

FIRE AND EXPLOSION DATA

Flash Point : >93 deg C (>200 deg F)
Method : SETAFLASH

Method

: SETAFLASH

Flash Point: 229 deg C (445 deg F) COC

FIRE AND EXPLOSION HAZARDS

Hazardous gases/vapors produced in fire are smoke, soot, carbon monoxide and carbon dioxide.

EXTINGUISHING MEDIA

Water Spray. Foam. Dry Chemical. CO2.

Halon

SPECIAL FIRE FIGHTING INSTRUCTIONS

Keep personnel removed & upwind of fire. Wear self-contained breathing apparatus. Wear full protective equipment. Cool tank/container with water spray.

OTHER PHYSICAL HAZARDS

This container can be hazardous when empty, because it can retain product residues. Therefore, do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

HEALTH HAZARD INFORMATION

EFFECTS OF OVEREXPOSURE:

SKIN CONTACT: Irritatation can possibly occur following prolonged or repeated contact.

INGESTION: Can cause nausea, vomiting, and gastrointestinal upset (e.g. diarrhea).

CARCINOGENICITY

None of the components in this material is listed by IARC, NTP, OSHA, or ACGIH as a carcinogen.

EXPOSURE LIMITS

CASTOR OIL

TLV (ACGIH) : None Established PEL (OSHA) : None Established

DU PONT Material Safety Data Sheet

Page

(HEALTH HAZARD INFORMATION - Continued)

SAFETY PRECAUTIONS

Avoid breathing vapors or mist. Avoid contact with eyes, skin, or clothing. Wash thoroughly after handling. Wash clothing after use.

FIRST AID

INHALATION

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

SKIN_CONTACT

Flush skin with water after contact. Wash contaminated clothing before reuse.

EYE CONTACT

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

INGESTION

If swallowed, immediately give 2 glasses of water and induce vomiting. Never give anything by mouth to an unconscious person. Call a physician.

PROTECTION INFORMATION

GENERALLY APPLICABLE CONTROL MEASURES AND PRECAUTIONS

Use only with adequate ventilation. Keep container tightly closed.

This container can be hazardous when empty, because it can retain product residues. Therefore, do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

PERSONAL PROTECTIVE EQUIPMENT

EYE/FACE PROTECTION

Wear safety glasses. Wear coverall chemical splash goggles and face shield when the possibility exists for eye and face contact due to splashing or spraying of material.

RESPIRATORS

This material does not have established exposure limits. Wear a positive pressure air-supplied respirator in situations where a respirator is judged appropriate.

PROTECTIVE CLOTHING

Wear impervious clothing, such as gloves, apron, boots, or whole bodysuit as appropriate. No vendor recommendation on

(PROTECTION INFORMATION - Continued)

material of construction for protective clothing.

DISPOSAL INFORMATION

SPILL, LEAK, OR RELEASE

NOTE: Review FIRE AND EXPLOSION HAZARDS and SAFETY PRECAUTIONS before proceeding with clean up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean up.

Dike spill. Prevent liquid from entering sewers, waterways or low areas. Soak up with sawdust, sand, oil dry or other absorbent material.

If a substantial quanitity is spilled and can be pumped, recover with pumping equipment or a vacuum truck. Place contaminated material in a suitable container for further handling and disposal.

WASTE DISPOSAL

Treatment, storage, transportation and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations. Do not flush to surface water or sanitary sewer system.

Of the methods of disposal currently available, the vendor recommends that an alternative be selected according to the following order of preference, based upon enviornmental acceptability:

- (1) Recycle or rework if at all feasible
- (2) Incinerate in an authorized facility
- (3) Treat at an acceptable waste treatment facility, or
- (4) Landfill at an approved facility (solidification or fixation may be required prior to disposal.

STORAGE CONDITIONS

Store above 43 deg C (110 deg F). Store in well ventilated area. Store in cool place. Keep container tightly closed.

Store in a dry place.

TITLE III HAZARD CLASSIFICATIONS

Acute : Yes
Chronic : No
Fire : No
Reactivity : No
Pressure : No

Material Safety Data Sheet

ADDITIONAL INFORMATION AND REFERENCES

Technical data, based on Morton International MSDS dated 9/24/90, Motor Oil, Inc. MSDS dated 2/7/84.

The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

Responsibility for MSDS

: Du Pont Corporate MSDS Office - HR Barley Mill Plaza, P14-2150 Wilmington, DE 19880-0014 302-992-6704

End of MSDS

APPENDIX 2

WASTE MANIFESTS

XI (TOLL FREE) GTON D.C. 483-7616 CONTINENTAL ILSIA (202) 483-7616

Public reporting burden for this collection of information is estimated to average: 37 minutes for generators, 15 minutes for framporters, and 10 minutes for treatment, storage and disposal facilities. This includes time minutes for treatment, storage and disposar racinities. This includes time for revening instructions, gathering data and completing and reviewing the form. Send comments regarding the burden estimate, including suggestions for reducing this burden to Chief, Information Policy Branch, PM-223. U.S. Environmental Protection Agency, 401 M Street SW, Washington DC 20480; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington DC 20503

SID NUMBER MUST BE SHOWN ON ALL FREIGHT BILLS AND CORRESPONDENCE

Du Pont Form TD~10620 Rev. 10/91

Shipment Identification Number

Form Approved OMB No. 2050-0039 Expires 9-30-92 Please print or type on elite (†2-pitch) typewriter.) 1. Generator's US EPA ID No. Manifest Document No. UNIFORM HAZARDOUS Information in the shaded areas is 040005041843193 not required by Federal law **WASTE MANIFEST** A. State Manifest Document Number 3. Generator's Name and Mailing B. State Generator's ID 0410 43613 Recei US EPA ID Number 5. Transporter 1 Company C. State Transporter's ID 04898061437 PORTATION INC. D. Transporter's Phone 200 7836555 7. Transporter 2 Company E. State Transporter's ID F. Transporter's Phone 9. Designated Facility Name and Site Address **US EPA ID Number** G. State Facility's ID ROSS INCINERATION CO. 36790 GILES RD. GRAFTON, OH. 44044 H. Facility's Phone OKD 048415663 800 878 12. Containers 11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number) Total Unit Waste No. Type No. Quantity RQ HAZARDOUS WASTE LIQUID, n.o. S. (WASTE CONTAMINATED WATER) 9, NA 3082 PG III (FOOB, FOOS) 01 77 22880 K. Handling Codes for Wastes Listed Above J. Additional Descriptions for Materials Listed Above WPS 35383 (Rail, Cargo Tank, Portable 15. Special Handling Instructions and Additional Information Tank, Freight Container) (Truck - 1,000 lbs. or More) **Placards Provided** 16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment OR if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method available to me and Date Printed/Typed Name 7 O 93 17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name Signatur Printed/Typed Name Signature 19. Discrepancy Indication Space . Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19. Date Printed/Typed Name Signature Month Day

2/C-4 Closure - Wasternater

orm 8700-22 (3-87)

CAECEARA TO STA

EPA Folm 9700-22 (Rev. 9-88) Previous edition is obsciete.

Department of Pollution Control and Ecology P. C. Box 8913 Little Rock, Arkansus 72219-8913 Telephone 501-562-7444 Ravios 9/13/93 - DRA J Sludges

#2:~ Approved. DMB No. 2050-0039. Expires 9-30-94 "Form designed for use on erite (12-bitch) type writer. within 0 the standard at his a figt L. Generalor & -S are B No. UNIFORM HAZARDOUS squired by Federal & OHID 0 0 5 0 4 1 1 8 4 2 9 2 1 19 12 WASTE MANIFEST A. State Menileet Cocument Number 1. THE COMMISSION AND AND ADDRESS AND ADDR Attu: Demoe Trabbic Pointer E. I. Du Pont De Nemours & Co. 43613 1930 Transinsville Road OH Taledo C. State Canegomers ID 5. Tansogner 1 Company 449-478-1211 10:25 . . . rámi C. Transporter's Phone Corrora Brile Commodities, 1**9.8**36 6197 P. frameporter's Phone 4 C. State Facility's C Rineco r. Facility's Phone 1007 Vulcan Rd.-Haakell 501/27%-9089 Benton, AR 72015 A P P Q 2 1 0 5 7 8 7 0 Link Wy voi Total Cuanhly 11, US COT Geennation (Including Proper Shipping Name, Heard Class, and 'C Number, WENG NO. 103 RQ Wane Flammable Liquid, N.O.S. (Toluenein-Buryl Alcohol)
Flammable Liquid UN1993 RQ (D007/D008) D001/D005/D007/I K. riandling Codes for Wastes Listed Above J. Additional Concriptions for Materials Listed Above EMERGENCY RESPONSE INFORMATION: a 9209-4463 ERG#27 (WOT-17) Load#2703 9/7/93 4:00 AM Denise Trabbic-Pointer Chemtrec if no alternate TSDF, return to generator 419-478-1211 800-424-9300 15 Special mandling instructions and Additional Information GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by rightway according to applicable international and national government regulations and Arkanasa state regulations. if I am a large quantly generator, I carbly that I have a program in place to recure the rollimm and toxicity of weate \$21 afairs. he dagrea tinavo determinad to be economically practicable and that, have selected the practicable metrod of freatment, attended a disposal outside as a future innest to human health and the environment QR, if I am a small quantity generator, I have made a good faith effort is a wrich minimizes the present and my wasta generation and salect the best waste management method that is available to me and that i can afford. Gay Tinigd/Typed Name 12×160 Transporter : Adminishment of Receipt of Materials Printed Typed Name Allen TR WILBER M. 18. Transporter: 2. Acknowledgement of Receipt of Materials Printed/Typed Name 9.06.83 Ames 20. Fearly Owner or Operator: Cordination of receipt of negations materials payed by this manifest expost 48 noted in tem 19

APPENDIX 3

ANALYTICAL DATA REPORTS

ES PLEASE COMPLETE THIS ENTIRE FORM

18138

HERITAGE LABORATORIES, INC.

4132 POMPANO ROAD

CHARLOTTE, N.C. 28216 (704) 393-1853

Co. Name: DuPont A? Plan	at Tolelo				(Not	Ar e spec	nalyse	s Rec	uested	thods)	Co: 14R	Report To:		
Tank C-2	C-4 Closure	#	f			$\overline{}$		T				6 Osportuni	41)_ ·
Quote No.: PO No	0.: 63033	ОТНЕЯ	- [l	ļ	ļ		ļ			70/6	do Opportunio	7	
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ENVIRONMENTAL PROGRAM:		[돌 전		ĺ							Attn: Ja	c Ritcher		
CWA NPDESIWP	SLUDGE	S 전	ļ			2					Phone: 4/19	-478-4396		
		支		ļ		-3	.				Accelerated T	urnaround Requeste	ed <u>/</u> 1	wk
RCRA MWSW	_ DISPOSAL	e S S				9					(Sut	bject to Additional Charge	e) /5	٥).
SDWACERCLA/SUPERFUND	OTHER	San Mary	ers		2	Alcho					Result Regues	st by: 9 / /	, ,	<i>4</i> 3
	OTTIEN] <u></u>	tain		70%	`					Tresuit rieques	st by: 9 / / Mo D	av	Yr
Sampled by:		Sample Type (Matrix): DW, GW, WW, SOIL, SLUDGE,	of Containers	VOCE	Semi	CRA						pe Accepted and Approve		
Sample Date: Time: O G G	Sample Description:		No. o	7	8	RC					Ro	emarks:		MS ple No.
C-2 \$23/933:25 V FINA	+LRINSE TE C-2		4	1	V	-							A2X	7942
	AL RINSETK C-Y		7	V	~	7							1	942
	DATER USED IN RAUSE		2											944
	NATER FILLED IN RI		2	7									11	945
	BLANK FROM TOL		,	7					 				1.1	QUI.
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	Described by 40	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		_		I Del	linguish -	d by: 45	in notices)		Date /Time	In Section	Ļ	
Relinquished by: (Signature) D	Pate /Time Received by: (S	ngnature))			Hel	iinquisne	a by: (S	ignature)	ļ	Date / Time	Received by: (Signatur	e)	
HASALDRUTTO 18/23	3h 4.15p										/			
Relinquished by: (Signature)	hate /Time / Received by: (S	Signature))			Rel	linquishe	d by: (S	ignature)		Date /Time	Received by: (Signatur	re)	
<i>'</i> "	/										/			
Relinquished by: (Signature)	Date /Time Received for Lat	b by: (Sig	gnature	<u> </u>		Rem	narks:							
	Jate / Ime S, ASK	/) C 1 ~-	81	/24/ WP	19	3								
Distribution: Original and yellow cop	pies accompany sample to laborator					7								
Pink copy retained by client;	Yellow copy returned to client.		<u></u> -											

CERTIFICATE OF ANALYSIS

Service Location	Received	Project	Lab ID
HERITAGE LABORATORIES, INC.	24-AUG-93	1871	A287942
7901 W. MORRIS ST.	Complete	PO N	lumber
INDIANAPOLIS, IN 46231	31-AUG-93	630	33
(317)243-8305	Printed Sample		led
	01-SEP-93	23-AUG-	93 15:25

Report To

Bill To

JOE RITCHEY HERITAGE REMEDIATION/ENGINEERING, INC. 5656 OPPORTUNITY DRIVE TOLEDO, OH 43612

STEVE SMITH HERITAGE TREATMENT CENTER 5656 OPPURTUNITY DRIVE TOLEDO, OH 43612

Sample Description

SAMPLE ID: C-2 DESCRIPTION: FINAL RINSE TK C-2 LOCATION: DUPONT AP PLANT TOLEDO

VOLATILE ORGANICS SW Analyst: R. SHAMP		ate: 27-AUG-93	16:07 Inst	rument: GC/MS V	OA .		Test: 0	510.3.0
	Parameter		31113311111	Resul	t	Det. L	imit	Units
ACETONE				130			20	ug/L
ACROLEIN				BDL			50	ug/L
ACRYLONITRILE			,,,,,,	BDL			70	ug/L
BENZENE				BDL			5	ug/L
BROMODICHLOROMETHANE				BDL			5	ug/L
BROMOFORM				BDL			5	ug/L
BROMOMETHANE		. 2.2		BDL			10	ug/L
CARBON DISULFIDE		t el interelle		BDL			5	ug/L
CARBON TETRACHLORIDE	• • •	vs r.aar.		BDL	en e	,	5	ug/L
CHLOROBENZENE		n will nave ji	77.77	BDL		y 2007-12	5	ug/L
CHLOROETHANE		•		BDL			10	ug/L
CHLOROFORM				BDL			5	ug/L
CHLOROMETHANE				BDL			10	ug/L
DIBROMOCHLOROMETHANE		* * * *	- 4.486 15.7 (4.46)	BDL	, wird w	MA SULTAN	5	ug/L
CIS-1,3-DICHLOROPROP			5	BDL	133	Kanalan da	5	ug/L
DICHLORODIFLUOROMETH	ANE	•		BDL	· *	K	5	ug/L
1,1-DICHLOROETHANE		-		BDL	:		2	ug/L
1,2-DICHLOROETHANE		•	ti i w	BDL	4	l ^	5	ug/L
1,1-DICHLOROETHENE	Vide 1 No Jake		- NATION - NATION - ALE	BDL			5	ug/L
1,2-DICHLOROPROPANE ETHYLBENZENE	AMA A LITALA - LA TI	The State of the S		BDL			5	ug/L
EINTLDENZENE FLUOROTRICHLOROMETHA	NORSO STATE CONTROL OF	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		8				ug/L
2-HEXANONE	IN.Com No. 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1.31 D AFEMAN		BDL		Maria iyo	5	ug/L
METHYLENE CHLORIDE	<u> </u>	0.80 04		BDL BDL	egille ji biji si si	<u> </u>	10	ug/L
METHYL ETHYL KETONE	rwy w lighter in		***************************************	BDL			5 10	ug/L
4-METHYL-2-PENTANONE	%:36:178: 1 - 4 .	e stankister .		BDL	ên Yak nê bê Yikê Jiyê		10 10	ug/L
STYRENE	AMMODELLE UNITED STORE	e. L. Wesself	Name 1981 (1986)	BDL		ry - vy anin		ug/L
1,1,2,2-TETRACHLOROE	THANE					85	5 5	ug/L
TETRACHLOROETHENE	LIMINE	÷. ·		BDL		ga sala adal T	5	ug/L
TETRACHLORUETHENE	AAM .		A1 . 1. · · ·	BDL BDL	333	M	25	ug/L
OLUENE	.TW.F		· · · · · · · · · · · · · · · · · · ·		#	pa nyaétiy	_	ug/L
	ΤΩΤΑΪΕΙ		5 V	BDL			5 5	ug/L
1,2-DICHLOROETHENE (BDL		av di H		ug/L
TRANS-1,3-DICHLOROPR	UPENE			BDL			_ 5	ug/L

Page 1 (continued on next page)

Lab Sample	ID:	A287942
Det. Limit		Units

Parameter	Result	Det. Limit	Units
1,1,1-TRICHLOROETHANE	BDL	5	ug/L
1,1,2-TRICHLOROETHANE		5	ug/L
TRICHLOROETHENE	BDL	5	ug/L
VINYL ACETATE	BDL	10	ug/L
VINYL CHLORIDE	BDL	10	ug/L
XYLENE (TOTAL)	46	5	ug/L
SURROGATE RECOVERY			
DICHLOROETHANE-D4	99		% Rec
TOLUENE-D8	 100		% Rec
	99		

On this instrument, packed column has been replaced by capillary column with 8240 criteria.

GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRA Analyst: J. KOCH Analysis Date: 25-AUG-93	ACTION SW846-3510A	Test: P233.	4.0
Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	1000		mL
CTNAL VOLUME	talla era leagaera censerera - a - l'itali IX		in the second se

SEMI-VOLATILE ORGANICS (BASE/NEU Analyst: J. MINNIEAR, II Analysis Dat Prep: GC/MS SEPARATORY FUNNEL LIQUID-LIQUID	TRAL/ACID e: 30-AUG-93 EXTRACTION	FRACTIO 15:26 Inst 54846-3510A	NS) SW846-82 rument: GC/MS SV P233.4.0	270A 04	Test:	0505.3.0
Parameter		;	Result		Det. Limit	Units
ACENAPHTHENE			BDL		1	0 ug/L
ACENAPHTHYLENE	n na ligna al n Line de la		BDL			0 ug/L
ANTHRACENE			BDL			0 ug/L
BENZ (A) ANTHRACENE		7.1	BDL	. 4 1 4		0 ug/L
BENZO(A) PYRENE			BDL	yrw w		0 ug/L
BENZO(B) FLUORANTHENE	an shraidan		BDL			0 ug/L
BENZO(G,H,I)PERYLENE	LANGER L	A AM. 1AM	BDL	a and and are seen to a com-	L	0 ug/L
BENZO(K) FLUORANTHENE			BDL			0 ug/L
BENZYL ALCOHOL	a angyang		BDL			0 ug/L
BENZYLBUTYLPHTHALATE			BDL	d av. M. Wei i Wi		0 ug/L
BIS(2-CHLOROETHOXY)METHANE			BDL BDL	en de la vita de		0 ug/L 0 ug/L
BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROISOPROPYL)ETHER	Ar did	18 8799 1178.	BDL	68. AT NOT REPAYED		0 ug/L
BIS(2-CHLOROISOPROPYL)EIHER BIS(2-ETHYLHEXYL)PHTHALATE A_RROMODHENVIPHENVIETHED	w	7,5795	13			0 ug/L
4-BROMOPHENYLPHENYLETHER			BDL			0 ug/L
CARBAZOLE			BDL			0 ug/L
4-CHLOROANILINE		·	BDL			0 ug/L
2-CHLORONAPHTHALENE		: :	BDL			0 ug/L
4-CHLOROPHENYLPHENYLETHER			BDL		1	0 ug/L
CHRYSENE			BDL		1	0 ug/L
DIBENZ(A,H)ANTHRACENE			BDL		1	0 ug/L
DIBENZOFURAN			BDL			0 ug/L
1,2-DICHLOROBENZENE			BDL			0 ug/L
1,3-DICHLOROBENZENE	- if.		BDL			0 ug/L
1,4-DICHLOROBENZENE			BDL			0 ug/L
3,3'-DICHLOROBENZIDINE			BDL		2	
DIETHYLPHTHALATE			BDL		l .	0 ug/L
IMETHYLPHTHALATE		. ialij	BDL	· · · · · · · · · · · · · · · · ·	1	0 ug/L
I-N-BUTYLPHTHALATE			BDL	a wa		0 ug/L
DINITROBENZENES	•.		BDL			0 ug/L
2,4-DINITROTOLUENE			BDL			0 ug/L

Page 2 (continued on next page)

Paramete	Decemeter			Det. Limit	Units	
2,6-DINITROTOLUENE	•	В	Result }	10	ug/L	
)I-N-OCTYLPHTHALATE				ĺ	ug/L	
LUORANTHENE	. 21	B		10	ug/L	
LUORENE	ver i da de de alemania.	BC		10	ug/L	
IEXACHLOROBENZENE	232 3 3 - 11 a	BC		10	ug/L	
IEXACHLOROBUTAD I ENE		R) L	10	ug/L	
IEXACHLOROCYCLOPENTAD I ENE	•	B		10	ug/L	
IEXACHLOROETHANE) <u>[.</u>	io		
NDENO(1,2,3-CD)PYRENE		B		10	ug/L	
SOPHORONE		BE		io		
-METHYLNADHTHALENE		BC) 	10	ug/L	
APHTHALENE NATROANTI INF	inan and and the	BC		10		
	"WWW." AW. w. '	BC		50	ug/L	
-NITROANILINE	with with the second	B			ug/L ug/L	
-NITROANILINE		BE		50	ug/L ug/L	
TTDORENTENE		B			ug/L ug/L	
ITROBENZENE -NITROSO-DIPHENYLAMINE	We was not stroked was	BC		10	ug/L ug/L	
NITROSO-DI-N-PROPYLAMINE		BC		10	ug/L ug/L	
	ere ere - redeni ikil	BD		10	ug/L ug/L	
IENANTHRENE Picoline				50 50	ug/L ug/L	
		BD		10	ug/L	
RIDINE	:				ug/L ug/L	
TDACUI ODODENZENEC		BD		10		
TRACHLOROBENZENES	n da sykkologion kwisi	BD			ug/L ug/L	
	e ili laliletae e Martaci Hie	BD		10		
2,4-TRICHLOROBENZENE NZOIC ACID	liizet ii tyre	l Bn		50 50	ug/L	
CHLORO-3-METHYLPHENOL	1	BD		10		
CHLOROPHENOL	ang mayan iya iliya asa	BD		10	ug/L	
4-DICHLOROPHENOL		BD		10 10	ug/L	
4-DIMETHYLPHENOL		מס	ne. Neda sa		ug/L ug/L	
6-DINITRO-2-METHYLPHENOL		BD		50	ug/L ug/L	
				11111	ug/L ug/L	
4-DINITROPHENOL METHYLPHENOL	•	BD		10		
METHYLPHENOL		BD		10	ug/L	
					ug/L	
NITROPHENOL		BD		10	ug/L	
NITROPHENOL		BD		50	ug/L	
NTACHLOROPHENOL ENOL		I RD	L	50	ug/L	
TRACUL ADADUENAL				10		
TRACHLOROPHENOL 4,5-TRICHLOROPHENOL	We II. 4 I ''' v le vechama'' afem.	BD	L	10	ug/L	
4.5 TRICHLOROPHENOL					ug/L	
4,6-TRICHLOROPHENOL NZOQUINONE	1 4070 1 L	BD		10	ug/L	
NZUQUINUNE					ug/L	
IDDOCATE OFCOVERY				yu	m 1.	
RROGATE RECOVERY					ä	
					0/ D = =	
	****		Maria Palini		% Rec	
IL NICTI - ITS		33	en e		% Rec	
TROBENZENE-D5		78			% Rec	
FLUOROBIPHENYL		79			% Rec	
,4,6-TRIBROMOPHENOL	3.2				% Rec	
ERPHENYL-D14		98			% Rec	

Note: * Compound searched for but not detected. Standard was unavailable to determine retention time and detection limit.

Lab Sample ID: A287942

RCRA FOO1-FOO5 ALCOHOLS BY GC:FID SW846-8015A Analyst: B. BELL Analysis Date: 26-AUG-93 Instrum	ent: GC/FID	Test: 0490.	5,0
Parameter	Result	Det. Limit	Units
METHANOL	BDL	0.75	mg/L
ISOBUTANOL	BDL	5.0	mg/L
N-BUTYL ALCOHOL	BDL	5.0	mg/L
CYCLOHEXANONE	BDL	0.75	mg/L
2-ETHOXYETHANOL	BDL	5.0	mg/L
2-NITROPROPANE	BDL	5.0	mg/L

Sample Comments

* See Note for Parameter BDL Below Detection Limit

Sample chain of custody number 18138.

IDEM Drinking Water Certification Number C-49-01 This Certificate shall not be reproduced, except in full, without the written approval of the lab.

William

CERTIFICATE OF ANALYSIS

O RECD SFP 1 Project Received Lab ID Service Location HERITAGE LABORATORIES, INC. 24-AUG-93 1871 A287943 7901 W. MORRIS ST. PO Number Complete INDIANAPOLIS, IN 46231 (317)243-8305 03-SEP-93 63033 Sampled Printed 04-SEP-93 23-AUG-93 14:45

Report To

Bill To

JOE RITCHEY HERITAGE REMEDIATION/ENGINEERING, INC. 5656 OPPORTUNITY DRIVE TOLEDO, OH 43612

STEVE SMITH HERITAGE TREATMENT CENTER 5656 OPPURTUNITY DRIVE TOLEDO, OH 43612

Sample Description

SAMPLE ID: C-4

DESCRIPTION: FINAL RINSE TK C-4 LOCATION: DUPONT AP PLANT TOLEDO

CHLOROFOTAM BDL 10 ug/L CHLOROFORM BDL 5 ug/L CHLOROMETHANE BDL 10 ug/L DIBROMOCHLOROMETHANE BDL 5 ug/L DICHLORODIFLUOROMETHANE BDL 5 ug/L 1,1-DICHLOROETHANE BDL 5 ug/L 1,2-DICHLOROETHANE BDL 5 ug/L 1,1-DICHLOROETHENE BDL 5 ug/L 1,2-DICHLOROPROPANE BDL 5 ug/L ETHYLBENZENE 67 5 ug/L ETHYLBENZENE 67 5 ug/L FLUOROTRICHLOROMETHANE BDL 5 ug/L 2-HEXANONE BDL 5 ug/L METHYL ETHYL KETONE BDL 10 ug/L METHYL ETHYL KETONE BDL 10 ug/L 4-METHYL-2-PENTANONE BDL 5 ug/L STYRENE BDL 5 ug/L 1,1,2,2-TETRACHLOROETHANE BDL 5 ug/L TETRACHLOROETHENE BDL 5 ug/L	VOLATILE ORGANICS SW846-8240A Analyst: R. SHAMP Analysis Date: 27-AUG	-93 16:45 Instrument: GC/MS VOA	Test: 0510,3.0
ACROLEIN ACRYLONITRILE BDL ACRYLONITRILE BDL			Det. Limit Units
ACROLEIN ACRYLONITRILE BDL BDL TO ug/L BENZENE ROMODICHLOROMETHANE BDL BDL BDL BCMOFORM BCMOFORM BDL BCMOFORM BCMOFO	ACETONE	EST 210	20 ug/L
ACRYLONITRILE BENZENE ROMODICHLOROMETHANE BDL BROMOFORM BDL BROMOFORM BDL	ACROLEIN	BDL	
BENZENE BDL 5 ug/L ROMODICHLOROMETHANE BDL 5 ug/L BROMOFORM BDL 5 ug/L BROMOMETHANE BDL 10 ug/L CARBON DISULFIDE BDL 5 ug/L CARBON TETRACHLORIDE BDL 5 ug/L CHLOROETHANE BDL 5 ug/L CHLOROFORM BDL 10 ug/L CHLOROFORM BDL 5 ug/L CHLOROFORM BDL 5 ug/L CHLOROFORM BDL 5 ug/L CHLOROFORME BDL 5 ug/L DIBROMOCHLOROMETHANE BDL 5 ug/L CIS-1,3-DICHLOROPROPENE BDL 5 ug/L DICHLORODIFLUOROMETHANE BDL 5 ug/L 1,1-DICHLOROETHANE BDL 5 ug/L 1,2-DICHLOROETHANE BDL 5 ug/L 1,2-DICHLOROPROPANE BDL 5 ug/L	ACRYLONITRILE	BDL	
ROMODICHLOROMETHANE BDL 5	BENZENE	BDL	
BROMOFORM BDL 10	ROMODICHLOROMETHANE	BDL	
BROMOMETHANE	BROMOFORM	BDL	
CARBON DISULFIDE CARBON TETRACHLORIDE BDL CHLOROBENZENE CHLOROETHANE BDL CHLOROFORM BDL CHLOROFORM BDL CIS-1,3-DICHLOROPENE BDL DICHLOROFITHANE BDL Sug/L CIS-1,3-DICHLOROPENE BDL Sug/L CIS-1,3-DICHLOROPENE BDL Sug/L CIS-1,3-DICHLOROPENE BDL Sug/L 1,1-DICHLOROETHANE BDL Sug/L 1,2-DICHLOROETHANE BDL Sug/L 1,2-DICHLOROETHANE BDL Sug/L 1,2-DICHLOROPANE BDL Sug/L 1,2-DICHLOROPANE BDL Sug/L 1,2-DICHLOROETHANE BDL Sug/L 1,2-DICHLOROETHANE BDL Sug/L 1,2-DICHLOROETHANE BDL Sug/L	BROMOMETHANE	BDL	10 ug/L
CARBON TETRACHLORIDE BDL 5 ug/L CHLOROBENZENE BDL 5 ug/L CHLOROETHANE BDL 10 ug/L CHLOROFORM BDL 5 ug/L CHLOROMETHANE BDL 10 ug/L CIS-1,3-DICHLOROPROPENE BDL 5 ug/L CIS-1,3-DICHLOROPROPENE BDL 5 ug/L DICHLORODIFLUOROMETHANE BDL 5 ug/L 1,1-DICHLOROETHANE BDL 5 ug/L 1,2-DICHLOROETHENE BDL 5 ug/L 1,2-DICHLOROPROPANE BDL 5 ug/L 1,2-DICHLOROMETHANE BDL 5 ug/L 1,2-DICHLOROMETHANE BDL 5 ug/L FLUOROTRICHLOROMETHANE BDL 5 ug/L 2-HEXANONE BDL 5 ug/L METHYLE ETHYL KETONE BDL 5 ug/L METHYLE ETHYL KETONE BDL 5 ug/L STYRENE BDL	CARBON DISULFIDE	BDL	5 ug/L
CHLOROBENZENE 8DL 5 ug/L CHLOROFTHANE 8DL 10 ug/L CHLOROFORM 8DL 5 ug/L CHLOROMETHANE 8DL 10 ug/L DIBROMOCHLOROMETHANE 8DL 5 ug/L CIS-1,3-DICHLOROPROPENE 8DL 5 ug/L DICHLORODIFLUOROMETHANE 8DL 5 ug/L 1,1-DICHLOROETHANE 8DL 5 ug/L 1,2-DICHLOROETHANE 8DL 5 ug/L 1,2-DICHLOROPROPANE 8DL 5 ug/L 1,2-DICHLOROPROPANE 8DL 5 ug/L ETHYLBENZENE 67 5 ug/L FLUOROTRICHLOROMETHANE 8DL 5 ug/L 2-HEXANONE 8DL 5 ug/L METHYLENE CHLORIDE 8DL 5 ug/L METHYL ETHYL KETONE 8DL 5 ug/L METHYL ETHYL KETONE 8DL 10 ug/L STYRENE 8DL 5 ug/L STYRENE 8DL 5 ug/L	CARBON TETRACHLORIDE	BDL	
CHLOROFORM BDL 10 ug/L CHLOROFORM BDL 5 ug/L CHLOROMETHANE BDL 10 ug/L DIBROMOCHLOROMETHANE BDL 5 ug/L CIS-1, 3-DICHLOROPROPENE BDL 5 ug/L DICHLORODIFLUOROMETHANE BDL 5 ug/L 1,1-DICHLOROETHANE BDL 5 ug/L 1,2-DICHLOROPROPANE BDL 5 ug/L 1,1-DICHLOROPROPANE BDL 5 ug/L ETHYLBENZENE 67 5 ug/L ETHYLBENZENE 67 5 ug/L FLUOROTRICHLOROMETHANE BDL 5 ug/L 2-HEXANONE BDL 5 ug/L METHYLE RECHORIDE BDL 10 ug/L METHYL ETHYL KETONE BDL 10 ug/L 4-METHYL-2-PENTANONE BDL 5 ug/L STYRENE BDL 5 ug/L 1,1,2,2-TETRACHLOROETHANE BDL 5 ug/L TETRACHLOROETHENE BDL 5 ug/L </td <td></td> <td></td> <td>,</td>			,
CHLOROFORM CHLOROMETHANE CHLOROMETHANE BDL DIBDL DIBDL DIBDL DICHLOROPROPENE BDL DICHLORODIFLUOROMETHANE BDL DICHLORODIFLUOROMETHANE BDL DICHLOROETHANE BDL DICHLOROFORPOPANE BDL DICHLOROPROPANE BDL DICHLOROPROPANE BDL DICHLOROFORPOPANE BDL DICHLOROFORPOPANE BDL DICHLOROMETHANE BDL DICHLOROMETHANE BDL DICHLOROMETHANE BDL DICHLOROMETHANE BDL DICHLOROMETHANE BDL DICHLOROFORPOPANE BDL DICHLOROFOR	CHLOROETHANE	BDL	
CHLOROMETHANE DIBROMOCHLOROMETHANE CIS-1,3-DICHLOROPROPENE BDL DICHLORODIFLUOROMETHANE BDL DICHLORODIFLUOROMETHANE BDL DICHLOROETHANE BDL DICHLOROETHANE BDL DICHLOROETHANE BDL DICHLOROETHANE BDL DICHLOROETHANE BDL DICHLOROETHENE BDL DICHLOROETHENE BDL DICHLOROFOPROPANE BDL DICHLOROPROPANE BDL DICHLOROMETHANE BDL DICHLOROETHENE BDL DICHLO	CHLOROFORM	BDL	
DIBROMOCHLOROMETHANE CIS-1,3-DICHLOROPROPENE DICHLORODIFLUOROMETHANE BDL J.2-DICHLOROETHANE BDL J.2-DICHLOROETHANE BDL J.2-DICHLOROETHENE BDL J.2-DICHLOROETHENE BDL J.2-DICHLOROPROPANE BDL J.2-DICHLOROPROPANE BDL			
CIS-1,3-DICHLOROPROPENE DICHLORODIFLUOROMETHANE BDL 1,1-DICHLOROETHANE BDL 5 ug/L 1,2-DICHLOROETHANE BDL 5 ug/L 1,1-DICHLOROETHENE BDL 5 ug/L 1,2-DICHLOROPROPANE BDL 5 ug/L ETHYLBENZENE FLUOROTRICHLOROMETHANE BDL 5 ug/L 2-HEXANONE BDL 5 ug/L ETHYLENE CHLORIDE BDL 5 ug/L ETHYLENE CHLORIDE BDL 5 ug/L ETHYLENE CHLORIDE BDL 5 ug/L ETHYLE ETHYL KETONE BDL 10 ug/L STYRENE BDL 10 ug/L ETRACHLOROETHANE BDL 5 ug/L SUG/L ETRACHLOROETHANE BDL 5 ug/L SUG/L SUG/L SUG/L BDL 5 ug/L SUG/L SU	DIBROMOCHLOROMETHANE	BDL	
DICHLORODIFLUOROMETHANE 1,1-DICHLOROETHANE 1,2-DICHLOROETHANE 1,1-DICHLOROETHENE 1,1-DICHLOROETHENE 1,2-DICHLOROPROPANE ETHYLBENZENE FLUOROTRICHLOROMETHANE 2-HEXANONE METHYLENE CHLORIDE METHYLENE CHLORIDE METHYL ETHYL KETONE 4-METHYL-2-PENTANONE SDL 10 ug/L STYRENE 1,1,2,2-TETRACHLOROETHANE BDL 5 ug/L 10 ug/L 11 ug/L 12 ug/L 13 ug/L 14 ug/L 15 ug/L 16 ug/L 17 ug/L 18 ug/L 19 ug/L 10 ug/L 10 ug/L 10 ug/L 11 ug/L 12 ug/L 13 ug/L 14 ug/L 15 ug/L 16 ug/L 17 ug/L 18 ug/L 19 ug/L 10 ug/L 10 ug/L 10 ug/L 10 ug/L 11 ug/L 12 ug/L 13 ug/L 14 ug/L 15 ug/L 16 ug/L 17 ug/L 18 ug/L 19 ug/L 19 ug/L 10 ug/L 10 ug/L 10 ug/L 10 ug/L 11 ug/L 12 ug/L 12 ug/L 13 ug/L 14 ug/L 15 ug/L	CIS-1.3-DICHLOROPROPENE	BDL	
1,1-DICHLOROETHANEBDL5 ug/L1,2-DICHLOROETHANEBDL5 ug/L1,1-DICHLOROETHENEBDL5 ug/L1,2-DICHLOROPROPANEBDL5 ug/LETHYLBENZENE675 ug/LFLUOROTRICHLOROMETHANEBDL5 ug/L2-HEXANONEBDL10 ug/LMETHYLENE CHLORIDEBDL5 ug/LMETHYL ETHYL KETONEBDL10 ug/L4-METHYL-2-PENTANONEBDL10 ug/LSTYRENEBDL5 ug/L1,1,2,2-TETRACHLOROETHANEBDL5 ug/LTETRACHLOROETHENEBDL5 ug/LTETRACHLOROETHENEBDL5 ug/LOLUENE465 ug/L1,2-DICHLOROETHENE (TOTAL)BDL5 ug/L			
1,2-DICHLOROETHANEBDL5ug/L1,1-DICHLOROETHENEBDL5ug/L1,2-DICHLOROPROPANEBDL5ug/LETHYLBENZENE675ug/LFLUOROTRICHLOROMETHANEBDL5ug/L2-HEXANONEBDL10ug/LMETHYLENE CHLORIDEBDL5ug/LMETHYL ETHYL KETONEBDL10ug/L4-METHYL-2-PENTANONEBDL10ug/LSTYRENEBDL5ug/L1,1,2,2-TETRACHLOROETHANEBDL5ug/LTETRACHLOROETHENEBDL5ug/LOLUENE465ug/L1,2-DICHLOROETHENE (TOTAL)BDL5ug/L		1	
1,1-DICHLOROETHENEBDL5ug/L1,2-DICHLOROPROPANEBDL5ug/LETHYLBENZENE675ug/LFLUOROTRICHLOROMETHANEBDL5ug/L2-HEXANONEBDL10ug/LMETHYLENE CHLORIDEBDL5ug/LMETHYL ETHYL KETONEBDL10ug/L4-METHYL-2-PENTANONEBDL10ug/LSTYRENEBDL5ug/L1,1,2,2-TETRACHLOROETHANEBDL5ug/LTETRACHLOROETHENEBDL5ug/LOLUENE465ug/L1,2-DICHLOROETHENE (TOTAL)BDL5ug/L			
1,2-DICHLOROPROPANEBDL5ug/LETHYLBENZENE675ug/LFLUOROTRICHLOROMETHANEBDL5ug/L2-HEXANONEBDL10ug/LMETHYLENE CHLORIDEBDL5ug/LMETHYL ETHYL KETONEBDL10ug/L4-METHYL-2-PENTANONEBDL10ug/LSTYRENEBDL5ug/L1,1,2,2-TETRACHLOROETHANEBDL5ug/LTETRACHLOROETHENEBDL5ug/LTETRAHYDROFURANBDL25ug/LOLUENE465ug/L1,2-DICHLOROETHENE (TOTAL)BDL5ug/L			
FLUOROTRICHLOROMETHANE 2-HEXANONE BDL BDL METHYLENE CHLORIDE METHYL ETHYL KETONE BDL			5 ug/l
FLUOROTRICHLOROMETHANE 2-HEXANONE BDL BDL METHYLENE CHLORIDE METHYL ETHYL KETONE BDL			5 ug/l
2-HEXANONE METHYLENE CHLORIDE METHYL ETHYL KETONE METHYL ETHYL KETONE 4-METHYL-2-PENTANONE BDL STYRENE BDL BDL STYRENE BDL STYRENE BDL STURYL STRACHLOROETHANE BDL STURYL STRACHLOROETHENE BDL STURYL		= *	5 ug/l
METHYLENE CHLORIDE METHYL ETHYL KETONE 4-METHYL-2-PENTANONE STYRENE BDL 10 ug/L STYRENE BDL 1,1,2,2-TETRACHLOROETHANE TETRACHLOROETHENE BDL 5 ug/L 15 ug/L 15 ug/L 17 ug/L 17 ug/L 18 ug/L 19 ug/L 19 ug/L 10 ug/L			
METHYL ETHYL KETONE 4-METHYL-2-PENTANONE BDL STYRENE BDL STYRENE BDL STURENE BDL BDL STURENE BDL BDL STURENE BDL			
4-METHYL-2-PENTANONE BDL 10 ug/L STYRENE BDL 5 ug/L 1,1,2,2-TETRACHLOROETHANE BDL 5 ug/L TETRACHLOROETHENE BDL 5 ug/L TETRAHYDROFURAN BDL 25 ug/L OLUENE 46 5 ug/L 1,2-DICHLOROETHENE (TOTAL) BDL 5 ug/L			
STYRENE 1,1,2,2-TETRACHLOROETHANE TETRACHLOROETHENE TETRAHYDROFURAN OLUENE 1,2-DICHLOROETHENE (TOTAL) BDL 5 ug/L ug/L 1,2,2-TETRACHLOROETHANE BDL 5 ug/L ug/L 1,2-DICHLOROETHENE (TOTAL)			4
1,1,2,2-TETRACHLOROETHANEBDL5ug/LTETRACHLOROETHENEBDL5ug/LTETRAHYDROFURANBDL25ug/LOLUENE465ug/L1,2-DICHLOROETHENE (TOTAL)BDL5ug/L			, , , , , , , , , , , , , , , , , , , ,
TETRACHLOROETHENE TETRAHYDROFURAN OLUENE 1,2-DICHLOROETHENE (TOTAL) BDL 5 ug/L 25 ug/L 1,2-UCHLOROETHENE (TOTAL) BDL 5 ug/L 1,2-UCHLOROETHENE (TOTAL)			
TETRAHYDROFURAN OLUENE 1,2-DICHLOROETHENE (TOTAL) BDL 25 ug/L ug/L 5 ug/L			
OLUENE 46 5 ug/L 1,2-DICHLOROETHENE (TOTAL) BDL 5 ug/L			
1,2-DICHLOROETHENE (TOTAL) BDL 5 ug/L			
<u></u>	· · · · · ·		1
	TRANS-1,3-DICHLOROPROPENE	BDL	5 ug/L

Page 1 (continued on next page)

4	

Parameter	Result	Det. Limit	Units
1,1,1-TRICHLOROETHANE	BDL	5	ug/L
1,1,2-TRICHLOROETHANE	BDL	5	ug/L
TRICHLOROETHENE	BDL	5	ug/L
VINYL ACETATE	BDL	10	ug/L
VINYL CHLORIDE	BDL	10	ug/L
XYLENE (TOTAL)	EST 290	5.7	ug/L
SURROGATE RECOVERY			
DICHLOROETHANE-D4	98		% Rec
TOLUENE-D8	101		% Rec
BROMOFLUOROBENZENE	101		% Rec

On this instrument, packed column has been replaced by capillary column with 8240 criteria.

Dilution necessary due to high concentration of target compounds.

VOLATILE ORGANICS SW846-8240A Analyst: R. SHAMP Analysis Date: 29-AUG	-93 09:50 Instrument: GC/MS VOA	Test: 05	10.3.1
Parameter	Result	Det. Limit	Units
ACETONE	170	100	ug/L
ACROLEIN	BDL	250	ug/L
ACRYLONITRILE	BDL	350	ug/L
BENZENE	BDL	25	ug/L
BROMODICHLOROMETHANE	BDL	25	ug/L
BROMOFORM	BDL	25	ug/L
BROMOMETHANE	BDL	50	ug/L
CARBON DISULFIDE	BDL	25	ug/L
CARBON TETRACHLORIDE	BDL	25	ug/L
CHLOROBENZENE	BOL	25	ug/L
CHLOROETHANE	BDL	50	ug/L
CHLOROFORM	BDL	25	ug/L
CHLOROMETHANE	BDL	50	ug/L
DIBROMOCHLOROMETHANE	BDL	25	ug/L
CIS-1,3-DICHLOROPROPENE	BDL	25	ug/L
DICHLORODIFLUOROMETHANE	BDL	25	ug/L
1,1-DICHLOROETHANE	BDL	25	ug/L
1,2-DICHLOROETHANE	BDL	25	ug/L
1,1-DICHLOROETHENE	BDL	25	ug/L
1,2-DICHLOROPROPANE	BDL	25	ug/L
ETHYLBENZENE	67	25	ug/L
FLUOROTRICHLOROMETHANE	BDL	25	ug/L
2-HEXANONE	BDL	50	ug/L
METHYLENE CHLORIDE	BDL	25	ug/L
METHYL ETHYL KETONE	BDL	50	ug/L
4-METHYL-2-PENTANONE	BDL	50	ug/L
STYRENE	BDL	25	ug/L
1,1,2,2-TETRACHLOROETHANE	BDL	25	ug/L
TETRACHLOROETHENE	BDL	25	ug/L
TETRAHYDROFURAN	BDL	120	ug/L
TOLUENE	44	25	ug/L
1,2-DICHLOROETHENE (TOTAL)	BDL	25	ug/L
TRANS-1,3-DICHLOROPROPENE	BDL	25	ug/L
,1,1-TRICHLOROETHANE	BDL	25	ug/L ug/L
,1,2-TRICHLOROETHANE	BDL	25	ug/L ug/L
TRICHLOROETHENE	BDL	25	
VINYL ACETATE	BDL	50	ug/L ug/L

Page 2 (continued on next page)

Lab Sample ID: A287943

Result BDL 290	Det. Limit Units 50 ug/L 25 ug/L
96 99 98	% Rec % Rec % Rec
	BDL 290 96 99

On this instrument, packed column has been replaced by capillary column with 8240 criteria. 1:5 dilution.

GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510A Analysis Date: 25-AUG-93			4.0
Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	1000	į.	mL
FINAL VOLUME	1.0		mL

SEMI-VOLATILE ORGANICS (BASE/NEUTRAL/ACID FRACTION Analyst: G. BARRETT Analysis Date: 31-AUG-93 10:00 Ins	Test: 0	505.3.0	
Prep: GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510A	A P233.4.0	<u>,</u>	
Parameter	Result	Det. Limit	Units
ACENAPHTHENE	BDL	10	ug/L
ACENAPHTHYLENE	BDL	10	ug/L
ANTHRACENE	BDL	10	ug/L
BENZ(A)ANTHRACENE	BDL	10	ug/L
BENZO(A)PYRENE	BDL	10	ug/L
ENZO(B)FLUORANTHENE	BDL	10	ug/L
BENZO(G,H,I)PERYLENE	BDL	10	ug/L
BENZO(K)FLUORANTHENE	BDL		ug/L
BENZYL ALCOHOL	BDL	10	ug/L
BENZYLBUTYLPHTHALATE	BDL	10	ug/L
BIS(2-CHLOROETHOXY)METHANE	BDL	10	ug/L
BIS(2-CHLOROETHYL)ETHER	BDL	10	ug/L
BIS(2-CHLOROISOPROPYL)ETHER	BDL	10	ug/L
BIS(2-ETHYLHEXYL)PHTHALATE	EST 7	10	ug/L
4-BROMOPHENYLPHENYLETHER	BDL	10	ug/L
CARBAZOLE	BDL	10	ug/L
4-CHLOROANILINE	BDL	10	ug/L
2-CHLORONAPHTHALENE	BDL	10	ug/L
4-CHLOROPHENYLPHENYLETHER	BDL	10	ug/L
CHRYSENE	BDL	10	ug/L
DIBENZ(A,H)ANTHRACENE	BDL	10	ug/L
DIBENZÔFÚRÁN	BDL	10	ug/L
1,2-DICHLOROBENZENE	BDL	10	ug/L
1,3-DICHLOROBENZENE	BDL	10	ug/L
1,4-DICHLOROBENZENE	BDL	10	ug/L
3,3'-DICHLOROBENZIDINE	BDL	20	ug/L
DIETHYLPHTHALATE	BDL	10	ug/L
DIMETHYLPHTHALATE	BDL	1	ug/L
DI-N-BUTYLPHTHALATE	EST 6	10	ug/L
DINITROBENZENES	BDL	11	ug/L
,4-DINITROTOLUENE	BDL	10	ug/L
,6-DINITROTOLUENE	BDL	10	ug/L
DI-N-OCTYLPHTHALATE	BDL	10	ug/L
FLUORANTHENE	BDL		ug/L

Page

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Parameter	Result	Det. Limit	Units
FLUORENE	BDL	10	ug/L
HEXACHLOROBENZENE	BDL		ug/L
HEXACHLOROBUTADIENE	BDL	10	ug/L
HEXACHLOROCYCLOPENTADIENE	BDL	10	ug/L
HEXACHLOROETHANE	BDL	10	
	BDL	10	ug/L
INDENO(1,2,3-CD)PYRENE	BDL		ug/L
I SOPHORONE		10	ug/L
2-METHYLNAPHTHALENE	BDL	10	ug/L
NAPHTHALENE	EST 5	10	ug/L
2-NITROANILINE	BDL	50	ug/L
3-NITROANILINE	BDL	50	ug/L
4-NITROANILINE	BDL	50	ug/L
NITROBENZENE	BDL	10	ug/L
N-NITROSO-DIPHENYLAMINE	BDL	10	ug/L
N-NITROSO-DI-N-PROPYLAMINE	BDL	10	ug/L
PHENANTHRENE	BDL	10	ug/L
2-PICOLINE	BDL	50	ug/L
PYRENE	BDL	10	ug/L
PYRIDINE	Í BDL	50	ug/L
TETRACHLOROBENZENES	BDL	10	ug/L
TOLUENEDIAMINE	BDL	50	ug/L
1,2,4-TRICHLOROBENZENE	BDL	10	ug/L
BENZOIC ACID	BDL	50	ug/L
4-CHLORO-3-METHYLPHENOL	BDL	10	ug/L
2-CHLOROPHENOL	BDL	10	ug/L
2,4-DICHLOROPHENOL	BDL	10	ug/L
2,4-DIMETHYLPHENOL	BDL	10	ug/L
4,6-DINITRO-2-METHYLPHENOL	BDL	50	ug/L
,4-DINITROPHENOL	BDL	50	ug/L
2-METHYLPHENOL	BDL	10	ug/L ug/L
4-METHYLPHENOL	BDL	10	ug/L ug/L
2-NITROPHENOL	BDL	10	
4-NITROPHENOL	BDL		ug/ L
PENTACHLOROPHENOL	BDL	50	ug/L
			ug/L
PHENOL TETRACH OPORTION	BDL	10	ug/L
TETRACHLOROPHENOL	BDL		ug/L
2,4,5-TRICHLOROPHENOL	BDL	50	ug/L
2,4,6-TRICHLOROPHENOL	BDL	10	ug/L
BENZOQUINONE	*		ug/L
SURROGATE RECOVERY			
2-FLUOROPHENOL	48		% Rec
PHENOL-D5	37		% Rec
NITROBENZENE - D5	79	~	% Rec
2-FLUOROBIPHENYL	76		% Rec
2,4,6-TRIBROMOPHENOL	70		
			% Rec
TERPHENYL - D14	91		% Rec

Note: * Compound searched for but not detected. Standard was unavailable to determine retention time and detection limit.

Lab Sample ID: A287943

RCRA FOO1-FOO5 ALCOHOLS BY GC:FID SW846-80 Analyst: B. BELL Analysis Date: 26-AUG-93	015A: Instrument::GC/FID:	Test: 0490.	5.0
Parameter ISOBUTANOL ISOBUTYL ALCOHOL CYCLOHEXANONE 2-ETHOXYETHANOL 2-NITROPROPANE	Result 1.0 BDL BDL BDL BDL BDL BDL BDL	5.0 0.75 5.0	Units mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L

Sample Comments

* See Note for Parameter BDL Below Detection Limit EST Estimated Value

Sample chain of custody number 18138.

IDEM Drinking Water Certification Number C-49-01 This Certificate shall not be reproduced, except in full, without the written approval of the lab.



CERTIFICATE OF ANALYSIS

Service Location Received Project Lab ID A287944 HERITAGE LABORATORIES, INC. 24-AUG-93 1871 7901 W. MORRIS ST. PO Number Complete INDIANAPOLIS, IN 46231 (317)243-8305 31-AUG-93 63033 Printed Sampled 31-AUG-93 23-AUG-93 15:35

Report To

Bill To

JOE RITCHEY
HERITAGE REMEDIATION/ENGINEERING, INC.
5656 OPPORTUNITY DRIVE
TOLEDO, OH 43612

STEVE SMITH
HERITAGE TREATMENT CENTER
5656 OPPURTUNITY DRIVE
TOLEDO, OH 43612

SEP

3 RECD

Sample Description

SAMPLE ID: TAP

DESCRIPTION: TAP WATER USED IN RINSE LOCATION: DUPONT AP PLANT TOLEDO

VOLATILE ORGANICS SW84	6-8240A Analysis Date:	27-AUG-93	17:24 Ins	trument: GC/MS	VOA	Ţ	est: 05	510.3.0
	arameter	_		Resu	lt	Det. Lin	ni t	Units
ACETONE				BDL			20	ug/L
ACROLEIN	Till sitter	·	AW IN	BDL			50	ug/L
ACRYLONITRILE		2		BDL		w · · · · · · ·	70	ug/L
ENZENE				BDL			5	ug/L
ROMODICHLOROMETHANE				9		, v.	5	ug/L
BROMOFORM			M. T. W	BDL			5	ug/L
BROMOMETHANE	W. + .	2.1	2012 - 4.	BDL	P. Marielland C. F. Co.		10	ug/L
CARBON DISULFIDE CARBON TETRACHLORIDE				BDL BDL		z sefsé	5	ug/L
CHLOROBENZENE				BDL		ar Stance) 	ug/L
CHLOROETHANE				BDL	*** **** **** *** *** ***	·# /8.141 1	10	ug/L ug/L
CHLOROFORM	NAMES AND SALES.			25			5	ug/L
CHLOROMETHANE	de telebre etas		. 77.77 2.77.77	BDL	. 6 6 . 6	· · · · · · · · · · · · · · · · · · ·	10	ug/L
DIBROMOCHLOROMETHANE				BDL			5	ug/L
CIS-1,3-DICHLOROPROPEN	F			BDL			5	ug/L
DICHLORODIFLUOROMETHAN				BDL		· · · · · · · · · · · · · · · · · · ·	5	ug/L
1,1-DICHLOROETHANE				BDL		•	5	ug/L
1,2-DICHLOROETHANE		a a a a a a a a a a a a a a a a a a a		BDL			5	ug/L
1,1-DICHLOROETHENE				BDL			5	ug/L
1,2-DICHLOROPROPANE				BDL		K. V. Yanzaria	5	ug/L
ETHYLBENZENE				BDL			5	ug/L
FLUOROTRICHLOROMETHANE				BDL			5	ug/L
2-HEXANONE				BDL			10	ug/L
METHYLENE CHLORIDE	yfuy in sûn			BDL			5	ug/L
METHYL ETHYL KETONE				BDL	•••		10	ug/L
4-METHYL-2-PENTANONE	·	•		BDL			10	ug/L
STYRENE	A 11.5			BDL	. •		5	ug/L
1,1,2,2-TETRACHLOROETH	ANE		:	BDL			5	ug/L
TETRACHLOROETHENE				BDL			5	ug/L
ETRAHYDROFURAN OLUENE			<i>;</i> ··	BDL			25	ug/L
	T X 1			BDL		ų .	5	ug/L
1,2-DICHLOROETHENE (TO		Ÿ	N. E.A	BDL			5 5	ug/L
TRANS-1,3-DICHLOROPROP	LINE			BDL	Daga 1 (aa			ug/L

Page 1 (continued on next page)

Lab Sample ID: A287944

Parameter	Result	Det. Limit	Units
1,1,1-TRICHLOROETHANE	BDL	5	ug/L
1,1,2-TRICHLOROETHANE	BDL	5	ug/L
TŔIĊHLOROETHENE	BDL	5	ug/L
VINYL ACETATE	BDL	10	ug/L
VINYL CHLORIDE	BDL	10	ug/L
		5	ug/L
SURROGATE RECOVERY		Malak Hari a Willia	.,
DICHLOROETHANE=D4	98	garini nyaka dabaw <mark>a</mark>	% Rec
TOLUENE-D8	101		% Rec
RROMOFI JOROBENZENE	98		/ Doc

On this instrument, packed column has been replaced by capillary column with 8240 criteria.

Sample Comments

BDL Below Detection Limit

Sample chain of custody number 18138.

IDEM Drinking Water Certification Number C-49-01 This Certificate shall not be reproduced, except in full, without the written approval of the lab.

Belevan

CERTIFICATE OF ANALYSIS

Service Location	Received	Project	Lab ID
HERITAGE LABORATORIES, INC.	24-AUG-93	1871	A287945
7901 W. MORRIS ST.	Complete	PO N	lumber
INDIANAPOLIS, IN 46231	31-AUG-93	630	33
(317)243-8305	Printed	Sampled	
	31-AUG-93	23-AUG-	93 15:30

Report To

Bill To

JOE RITCHEY HERITAGE REMEDIATION/ENGINEERING, INC. 5656 OPPORTUNITY DRIVE TOLEDO, OH 43612

STEVE SMITH HERITAGE TREATMENT CENTER 5656 OPPURTUNITY DRIVE TOLEDO, OH 43612

Sample Description

SAMPLE ID: FIELD
DESCRIPTION: DI WATER FILLED IN RM
LOCATION: DUPONT AP PLANT TOLEDO

VOLATILE ORGANICS SW84	16-8240A Analysis Date: 27-AUG-93	10:18 Instr	ument: GC/MS VOA		Tes	t; 0510.3.0
	arameter		Result		Det. Limi	
ACETONE			BDL			20 ug/L
ACROLEIN			BDL			50 ug/L
ACRYLONITRILE	ention for the company of the company of		BDL		v <i>annama</i> .	70 ug/L
ENZENE			BDL			5 ug/L
ROMODICHLOROMETHANE			BDL	are rooms to	n	5 ug/L
ROMOFORM	w Ar Garago I na Harabara		BDL			5 ug/L
' BROMOMETHANE			BDL	- 65.65 e/A 171.6 17 - 658	6. 179 J. Here	10 ug/L
CARBON DISULFIDE	febrefare und urtweil		BDL BDI			5 ug/L
CARBON TETRACHLORIDE	y duuk y tanwa a tambar		BDL BDL	www.co.co.	ar irvi segel s	5 ug/L 5 ug/L
CHLOROBENZENE			BDL		wan aring n	
CHLOROETHANE , CHLOROFORM			BDL		y 1 1222/229 201 - 3	10 ug/L 5 ug/L
CHLOROMETHANE			BDL			
DIBROMOCHLOROMETHANE			BDL		9 - Han 1989 to 13	10 ug/L 5 ug/L
	**************************************		BDL			
CIS-1,3-DICHLOROPROPEN DICHLORODIFLUOROMETHAN			BDL			5 ug/L
1,1-DICHLOROETHANE			BDL			5 ug/L 5 ug/L
	(1964) 100 (1966) 4 - (1967) - (1966) 4 - (1966)	· ·	BDL	N. PAZDA JARRA LAG. 1999		
1,2-DICHLOROETHANE 11,1-DICHLOROETHENE			BDL			
1,1-DICHLOROPROPANE	SWARE CONTRACTOR		BDL			
ETHYLBENZENE	Total March 1 saves		BDL	48.1013019419 - 388	harita . N	5 ug/L 5 ug/L
FLUOROTRICHLOROMETHANE	Elleres viles (1988) ()		BDL	mana : m	200 A.A.A.	5 ug/L
2-HEXANONE			BDL		# 1799 1.61.1 ·	10 ug/L
METHYLENE CHLORIDE			BDL	10000018' W		5 ug/L
METHYL ETHYL KETONE			BDL			10 ug/L
4-METHYL-2-PENTANONE			BDL	malasa especial		10 ug/L
STYRENE			BDL	5 M S		5 ug/L
1,1,2,2-TETRACHLOROETH	ΙΔΝΕ		BDL	11781 1884 18 B - 1889		5 ug/L 5 ug/L
TETRACHLOROETHENE			BDL	TERRESENT TO MA		5 ug/L
ETRAHYDROFURAN			BDL			25 ug/L
OLUENE			BDL	mama *** ad		5 ug/L
1,2-DICHLOROETHENE (TO	TAIN		BDL		X 4.2 - 11 - 1	5 ug/L
TRANS-1,3-DICHLOROPROP			BDL	IVI a sak	₩. C.L	5 ug/L
LIVANO-1, 3-DICHLOROPROP	LIIL		DUL			

Page 1 (continued on next page)

Lab Sample ID: A287945

Parameter	Result	Det.	Limit	Units
1,1,1-TRICHLOROETHANE	BDL		5	ug/L
1,1,2-TRICHLOROETHANE	# [#Bi3]###############################		5	ug/L
[RICHLOROETHENE]	BDL		5	ug/L
VINYL ACETATE	BDL		10	ug/L
VINYL CHLORIDE	BDL		10	ug/L
XYLENE (TOTAL)	BDL	·	- 5	ug/L
	.]			
SURROGATE RECOVERY		W.A		
DICHLOROETHANE-D4	96			% Rec
TOLUENE-D8	101			% Rec
BROMOFLUOROBENZENE				% Rec

On this instrument, packed column has been replaced by capillary column with 8240 criteria.

Sample Comments

BDL Below Detection Limit

Sample chain of custody number 18138.

IDEM Drinking Water Certification Number C-49-01 This Certificate shall not be reproduced, except in full, without the written approval of the lab.

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CERTIFICATE OF ANALYSIS

Service Location	Received	Project	Lab ID
HERITAGE LABORATORIES, INC.	24-AUG-93	1871	A287946
7901 W. MORRIS ST.	Complete	PO N	umber
INDIANAPOLIS, IN 46231	03-SEP-93	630	33
(317)243-8305	Printed	Sampled	
	03-SEP-93	23-AUG-	93

Report To

Bill To

JOE RITCHEY HERITAGE REMEDIATION/ENGINEERING, INC. 5656 OPPORTUNITY DRIVE TOLEDO, OH 43612

STEVE SMITH HERITAGE TREATMENT CENTER 5656 OPPURTUNITY DRIVE TOLEDO, OH 43612

Sample Description

SAMPLE ID: TRIP DESCRIPTION: TRIP BLANK FROM TOL LOCATION: DUPONT AP PLANT TOLEDO

VOLATILE ORGANICS SW846-8240A Analyst: R. SHAMP Analysis Date: 01-SEP-93 09:07	Instrument:: GC/MS::VOA	Test: 0510.3.0
Parameter	Result	Det. Limit Units
ACETONE	BDL	20 ug/L
ACROLEIN	BDL	50 ug/L
ACRYLONITRILE	BDL	70 ug/L
ENZENE	BDL	5 ug/L
ROMOD I CHLOROMETHANE	BDL	5 ug/L
BROMOFORM	BDL	5 ug/L
BROMOMETHANE	BDL	10 ug/L
CARBON DISULFIDE	BDL	5 ug/L
CARBON TETRACHLORIDE	BDL	5 ug/L
CHLOROBENZENE	BDL	5 ug/L
CHLOROETHANE	BDL	10 ug/L
, CHLOROFORM	BDL	5 ug/L
CHLOROMETHANE	BDL	10 ug/L
DIBROMOCHLOROMETHANE	BDL	5 ug/L
CIS-1,3-DICHLOROPROPENE	BDL	5 ug/L
DICHLORODIFLUOROMETHANE	BDL	5 ug/L
1,1-DICHLOROETHANE	BDL	5 ug/L
1,2-DICHLOROETHANE	BDL	5 ug/L
1,1-DICHLOROETHENE	BDL	5 ug/L 5 ug/L
1,2-DICHLOROPROPANE	BDL	5 ug/L
ETHYLBENZENE	BDL	5 ug/L
FLUOROTRICHLOROMETHANE	BDL	5 ug/L
2-HEXANONE	BDL	10 ug/L
METHYLENE CHLORIDE	6	5 ug/L
METHYL ETHYL KETONE	BDL	10 ug/L
4-METHYL-2-PENTANONE	BDL	10 ug/L
STYRENE	BDL	5 ug/L
1,1,2,2-TETRACHLOROETHANE	BDL	5 ug/L
TETRACHLOROETHENE	BDL	5 ug/L
ETRAHYDROFURAN	BDL	25 ug/L
OLUENE	BDL	5 ug/L
1,2-DICHLOROETHENE (TOTAL)	BDL	5 ug/L
TRANS-1,3-DICHLOROPROPENE	BDL	5 ug/L

Lab Sample ID: A287946

Parameter	Result	Det. Limit	Units
1,1,1-TRICHLOROETHANE	BDL	5	ug/L
1,1,2-TRICHLOROETHANE	BDL	5	ug/L
TRICHLOROETHENE	BDL	5	ug/L
VINYL ACETATE	BDL	10	ug/L
VINYL CHLORIDE	BDL	10	ug/L
XYLENE (TOTAL)	BDL	5	ug/L
SURROGATE RECOVERY		4.	
SURROUNTE RECOVERT		<u> </u>	
DICHLOROETHANE - D4	96	#	% Rec
TOLUENE-D8	100		% Rec
BROMOFLUOROBENZENE	98		% Rec

On this instrument, packed column has been replaced by capillary column with 8240 criteria.

Sample Comments

BDL Below Detection Limit

Sample chain of custody number 18138.

IDEM Drinking Water Certification Number C-49-01 This Certificate shall not be reproduced, except in full, without the written approval of the lab.

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QUALITY ASSURANCE REPORT

Service Location	Received	Lab ID
HERITAGE LABORATORIES, INC.	24-AUG-93	A287943
7901 W. MORRIS ST.	Complete	PO Number
INDIANAPOLIS, IN 46231	03-SEP-93	63033
(317)243-8305	Printed	Sampled Sampled
	07-SEP-93	23-AUG-93 14:45

Sample Description

SAMPLE ID: C-4
DESCRIPTION: FINAL RINSE TK C-4
LOCATION: DUPONT AP PLANT TOLEDO

	it : R. SHAI ver: A. BRAI		Analysis Date: 27-AUG-5 Review Date: 30-AUG-5		ment: 6C/MS): >2633J	VOA	Test: 0510. Run: R1953		
a bring propose be	Identifier		Parameter	True/Sampl	Spike Val	Observed	Units	% Rec	RPI
CCV	0770498		See Attached Report g2620j.ind		opine tu		J 65	,	```
BLA01	0770499		See Attached Report g2621j.ind						
SAMPLE	A287943		See Certificate of Analysis						
CS01	Q770504	EMS	ACETONE	20		20.5	ug/L	102.5	1
LCS01	Q77050 4	1	BENZENE	20		18.4	ug/L	92	1
LCS01	0770504	EMS	BROMODICHLOROMETHANE	20		17	ug/L	85	
LCS01	Q770504	EMS	BROMOFORM	20		14.8	ug/L	74	1
LCS01	Q7705 0 4		BROMOMETHANE	20		17.6	ua/L	88	
LCS01	Q770504	EMS	CARBON DISULFIDE	20		14.6	ug/L	73	
CS01	Q770504		CARBON TETRACHLORIDE	20		15.5	ug/L	77.5	1
CS01	Q77050 4	EMS	CHLOROBENZENE	20		18	ug/L	90	
S01	Q77050 4	EMS	CHLOROETHANE	20		17.6	ug/L	88	1
LCS01	Q770504	EMS	CHLOROFORM	20		17	ug/L	85	1
CS01	Q77050 4	EMS	CHLOROMETHANE	20		16.6	ug/L	83	1
LCS01	Q77050 4	EMS	DIBROMOCHLOROMETHANE	20		15.7	ug/L	78.5	1
LCS01	Q770504	EMS	CIS-1,3-DICHLOROPROPENE	20		17.4	ug/L	87	
LCS01	Q770504	EMS	1,1-DICHLOROETHANE	20		17.9	ug/L	89.5	
_CS01	Q770504	EMS	1,2-DICHLORDETHANE	20		19	ug/L	95	
LCS01	Q770504	EMS	1,1-DICHLOROETHENE	20		16.6	ug/L	83	İ
.CS01	Q770504	EMS	1,2-DICHLOROPROPANE	20		18.4	ug/L	92	
CS01	Q770504	EMS	ETHYL BENZENE	20	<u> </u>	17.3	ug/L	86.5	1
.CS01	Q770504	EMS	FLUOROTRICHLOROMETHANE	20		16.2	ug/L	81	
CS01	Q770504	EMS	2-HEXANONE	20		18.5	ug/L	92.5	
_CS01	Q770504	EMS	DICHLOROMETHANE (METHYLENE CHLORIDE)	20		19.1	ug/L	95.5	
CS01	Q770504	EMS	METHYL ETHYL KETONE	20		20.3	ug/L	101.5	
CS01	Q770504	EMS	4-METHYL-2-PENTANONE	20		14.1	ug/L	70.5	
.cso1	Q770504	EMS	STYRENE	20		17.2	ug/L	86	
CS01	Q770504	EMS	1,1,2,2-TETRACHLOROETHANE	20		19.2	ug/L	96	ļ
CS01	Q770504		TETRACHLOROETHENE	20		17.4	ug/L	87	
.CS01	Q770504	EMS	TOLUENE	20		18.1	ug/L	90.5	
.CS01	Q770504	EMS	TRANS-1,3-DICHLOROPROPENE	20		17.3	ug/L	86.5	
CS01	Q770504	EMS	1,1,1-TRICHLOROETHANE	20		17.4	ug/L	87	
CS01	Q770504	EMS	1,1,2-TRICHLOROETHANE	20		18.3	ug/L	91.5	
CS01	Q770504	EMS	TRICHLOROETHENE	20		17.8	ug/L	89	
CS01	Q770504	EMS	VINYL ACETATE	20		18.5	ug/L	92.5	
CS01	Q770504		VINYL CHLORIDE	20		16.7	ug/L	83.5	
S01	Q770504		TETRAHYDROFURAN	50		50.4	ug/L	100.8	1

Analys	t : R. SHAM	P	W846-8240A Analysis Date: 29-AUG-			VQA	Test: 0510.		
************	er: A. BRAD	**************	Review Date: 31+AUG-	1): >2642J	T	Run: R1954		,
	Identifier		Parameter	True/Sampl	Spike Val		Units	% Rec	RPD
JPI01	Q771615		1,1-DICHLOROETHENE	0	50	51.9	ug/L	103.8	
SPI01	0771615	· · · · · · · · · · · · · · · · · · ·	TRICHLOROETHENE	0	50	54.2	ug/L	108.4	
SPI01	Q771615		BENZENE	0	50	51.9	ug/L	103.8	
SP101	0771615		TOLUENE	0	50	50.8	ug/L	101.6	
SPI01	Q771615		CHLOROBENZENE	0	50	50.6	ug/L	101.2	
DPS01	Q771616		1,1-DICHLOROETHENE	0	50	50.4	ug/L	100.8	2.9
DPS01	Q771616	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	TRICHLOROETHENE	0	50	51.9	ug/L	103.8	4.3
DPS01	Q771616		BENZENE	0	50	49.6	ug/L	99.2	4.5
DPS01	Q771616		TOLUENE	0	50	48.6	ug/L	97.2	4.4
DPS01	0771616	A287088	CHLOROBENZENE	0	50	48.5	ug/L	97	4.2
CCV	Q771590		See Attached Report g2640j.ind						<u> </u>
BLA01	0771591	***************************************	See Attached Report g2641j.ind						
SAMPLE	A287943		See Certificate of Analysis						
LCS01	Q771592	ems	ACETONE	20		23	ug/L	115	
LCS01	Q771592	EMS	BENZENE	20		20.1	ug/L	100.5	<u> </u>
LCS01	Q771592	EMS	BROMODICHLOROMETHANE	20		19.2	ug/L	96	
LCS01	Q771592	EMS	BROMOFORM	20		16.9	ug/L	84.5	ļ
LCS01	0771592	EMS	BROMOMETHANE	20		19.9	ug/L	99.5	
LCS01	Q771592	EMS	CARBON DISULFIDE	20		16.4	ug/L	82	
LCS01	0771592	EMS	CARBON TETRACHLORIDE	20		18.7	ug/L	93,5	
LCS01	Q771592	EMS	CHLOROBENZENE	20		19.5	ug/L	97.5	<u> </u>
LCS01	Q771592	ems	CHLOROETHANE	20		18.7	ug/L	93.5	
LCS01	Q771592	EMS	CHLOROFORM	20		18.2	ug/L	91	<u> </u>
LCS01	Q771592	EMS	CHLOROMETHANE	20		18.5	ug/L	92.5	
CS01	Q771592	EMS	DIBROMOCHLOROMETHANE	20		18	ug/L	90	.
S01	Q771592	EMS	CIS-1,3-DICHLOROPROPENE	20		19	ug/L	95	
LCS01	Q771592	EMS	1,1-DICHLOROETHANE	20		19.4	ug/L	97	
LCS01	0771592	EMS	1.2-DICHLOROETHANE	20		21.6	ug/L	108	
LCS01	Q771592 I	EMS	1,1-DICHLOROETHENE	20		18.2	ug/L	91	
LCS01	Q771592 I	ems	1,2-DICHLOROPROPANE	20		20	ug/L	100	
LCS01	Q771592 I	EMS	ETHYL BENZENE	20		18.8	ug/L	94	
LCS01	Q771592	ems	FLUOROTRICHLOROMETHANE	20		19.3	ug/L	96.5	
LCS01	Q771592 I	EMS	2-HEXANONE	20		18.9	ug/L	94.5	<u> </u>
LCS01	Q771592 I	EMS	DICHLOROMETHANE (METHYLENE CHLORIDE)	20		22.1	ug/L	110.5	
LCS01	Q771592 I	EMS	METHYL ETHYL KETONE	20		20	ug/L	100	
LCS01	Q771592 I	EMS	4-METHYL-2-PENTANONE	20		16	ug/L	80	
LCS01	Q771592 1	EMS	STYRENE	20		19	ug/L	95	<u> </u>
LCS01	Q771592 I	EMS	1,1,2,2-TETRACHLOROETHANE	20		21.5	ug/L	107.5	
LCS01	Q771592		TETRACHLOROETHENE	20		18.8	ug/L	94]
LCS01	Q771592 I		TOLUENE	20		19.7	ug/L	98.5	
LCS01	Q771592 E		TRANS-1.3-DICHLOROPROPENE	20		19.1	ug/L	95.5	1
LCS01	Q771592 I		1,1,1-TRICHLOROETHANE	20		21.3	ug/L	106.5	
LCS01	Q771592 I		1,1,2-TRICHLOROETHANE	20		20.6	ug/L	103	[
LCS01	Q771592 I		TRICHLOROETHENE	20		19.4	ug/L	97	
LCS01	0771592		VINYL ACETATE	20		20.8	ug/L	104	[
LCS01	Q771592 E		VINYL CHLORIDE	20		17.5	ug/L	87.5	
LCS01	Q771592 E		TETRAHYDROFURAN	50		50.6	ug/L	101.2	

Lab Sample ID: A287943

Analy	SEMI-VOLATILE ORGANICS (BASE/NEUTRAL/ACID FRACTIONS) SW846-8270A Analyst : G. BARRETT Analysis Date: 31-AUG-93 Instrument: GC/MS SVOA Test: 0505.3:0 Reviewer: A. BRADBURN Review Date: 03-SEP-93 File ID: >4244F Run: R195861									
			Review Date: 03-SEP+9 TORY FUNNEL LIQUID-LIQUID E				tun: R195861			
200000000000000000000000000000000000000	Identifier		Parameter	True/Sampl	Spike Val	Observed	Units	% Rec	RPD	
SPI02		A287075	PHENOL	0	100	49.8	ug/L	49.8		
SPI02	Q767139	A287075	2-CHLOROPHENOL	0	100	91.9	ug/L	91.9		
SPI02	Q767139	A287075	1.4-DICHLOROBENZENE (P-DICHLOROBENZE	0	100	64	ug/L	64		
SPI02	Q767139	A287075	N-NITROSO-DI-N-PROPYLAMINE	0	100	94.1	ug/L	94.1		
SPI02	Q767139	A287075	1.2.4-TRICHLOROBENZENE	0	100	78.7	ug/L	78.7		
SPI02	Q767139	A287075	4-CHLORO-3-METHYLPHENOL	0	100	102	ug/L	102		
SPI02	Q767139	A287075	ACENAPHTHENE	0	100	86.4	ug/L	86.4		
SPI02	-	A287075	4+NITROPHENOL	0	100	57.8	ug/L	57.8		
SPI02		A287075	2,4-DINITROTOLUENE	0	100	96.3	ug/L	96.3		
SP102		A287075	PENTACHLOROPHENOL	0	100	155	ug/L	155		
SPI02	····	A287075	PYRENE	0	100	98.7	ug/L	98.7		
DPS02		A287075	PHENOL	0	100	52.8	ug/L	52.8	5.8	
DPS02		A287075	2-CHLOROPHENOL	0	100	86.3	ug/L	86.3	6.3	
DPS02		A287075	1.4-DICHLOROBENZENE (P-DICHLOROBENZE		100	58.4	ug/L	58.4	9.2	
DPS02		A287075	N-NITROSO-DI-N-PROPYLAMINE	0	100	87.1	ug/L	87.1 75.7	7.7	
DPS02		A287075	1,2,4-TRICHLOROBENZENE 4-CHLORO-3-METHYLPHENOL	0	100	75.7 100	ug/L ug/L	100	3.9 2	
DPS02		A287075	ACENAPHTHENE	0	100	87.5	ug/t	87.5	1.3	
DPS02		A287075	4-NITROPHENOL	0	100	71.2	ug/L	71.2	20.8	
DPS02		A287075	2.4-DINITROTOLUENE	0	100	101	ug/L	101	4.8	
DPS02	-	A287075	PENTACHLOROPHENOL	0	100	158	ug/L	158	1.9	
DPS02		A287075	PYRENE	0	100	96	-3/- 49/L	96	2.8	
CCV	Q774778		See Attached Report g4243f.ind							
LA02	Q771963		See Attached Report g5493h.ind							
MPLE	A287943		See Certificate of Analysis							
LCS	Q767138	HLI	ACENAPHTHENE	100		91.6	ug/t	91.6		
LCS	Q767138	HLI	ACENAPHTHYLENE	100		75	ug/L	75		
LCS	Q767138	HLI	ANTHRACENE	100		78.3	ug/L	78.3		
LCS	Q767138	HLI	BENZO(A)PYRENE	100		89	ug/L	89		
LCS	Q767138	HLI	BENZO(B)FLUORANTHENE	100		86.6	ug/L	86.6		
LCS	Q767138		BENZO(G,H,I)PERYLENE	100		100.6	ug/L	100.6		
LCS	Q767138	HLI	BENZO(K)FLUORANTHENE	100		84.1	ug/L	84.1		
LCS	Q767138		BENZYL ALCOHOL	100		78.8	ug/L	78.8		
' LCS	Q767138		BIS(2-CHLOROETHOXY)METHANE	100		87.6	ug/L	87.6	***************************************	
LCS	Q767138		BIS(2-CHLOROETHYL)ETHER	100		72.7	ug/L	72.7		
LCS	Q767138	1	BIS(2-CHLOROISOPROPYL)ETHER	100		75.1	ug/L	75.1		
LCS	Q767138	L.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	BIS(2-ETHYLHEXYL)PHTHALATE	100		86.7	ug/L	86.7		
LCS	Q767138		4-BROMODIPHENYL ETHER	100		98.3	ug/L	98.3		
LCS	Q767138		CARBAZOLE	100		100.2	ug/L	100.2		
LCS	Q767138		4-CHLOROANILINE	100		80.3	ug/L	80.3	***************************************	
LCS	0767138		2-CHLORONAPHTHALENE	100		101.2	ug/L	101.2		
LCS	Q767138 Q767138		4-CHLOROPHENYL-PHENYLETHER	100		86.9	ug/t	86.9	*************	
LCS	Q767138	• • • • • • • • • • • • • • • • • • • •	CHRYSENE	100		89.4 100.2	ug/L	89.4 100.2		
LCS	Q767138	1	DIBENZ(A,H)ANTHRACENE DIBENZOFURAN	100		91.2	ug/L ug/L	91.2		
LCS	Q767138		1.2-DICHLOROBENZENE (0-DICHLOROBENZE			62.1	ug/L	62.1		
LCS	Q767138	•	1,3-DICHLOROBENZENE (M-DICHLOROBENZE			64.7	ug/L	64.7	A. A	
LCS	Q767138		1,4-DICHLOROBENZENE (P-DICHLOROBENZE			63.8	ug/L	63.8		
LCS	Q767138		3.3'-DICHLOROBENZIDINE	100		101.6	ug/L	101.6		
S	Q767138		DIETHYLPHTHALATE	100		89.2	ug/L	89.2		
S	Q767138	1	DIMETHYLPHTHALATE	100		72.8	ug/L	72.8		
LCS	Q767138		DI-N-BUTYLPHTHALATE	100		86.5	ug/L	86.5		
LCS	Q767138		2.4-DINITROTOLUENE	100		111.8	ug/L	111.8		
	٦. ٥. ١٥٥		1-1. 0111111010101111	100			L -3' -	Page	<u> </u>	

Lab Sample ID: A287943

QC Type	Identifier	Source	Parameter	True/Sampl	Spike Val	Observed	Units	% Rec	RPD
LCS	Q767138	HLI	2,6-DINITROTOLUENE	100		99.7	ug/L	99.7	
CS	Q767138	HLI	DI-N-OCTYLPHTHALATE	100		83.9	ug/L	83.9	
S	Q767138	HLI	FLUORANTHENE	100		93	ug/L	93	
LCS	Q767138	HLI	FLUORENE	100		89.5	ug/L	89.5	
LCS	Q767138	HLI	HEXACHLOROBENZENE	100		102	ug/L	102	
LCS	Q767138	HL1	HEXACHLOROBUTADIENE	100		72.8	ug/L	72.8	
LCS	Q767138	HLI	HEXACHLOROCYCLOPENTADIENE	100		42.9	ug/L	42.9	
LCS	0767138	HLI	HEXACHLOROETHANE	100		61.4	ug/L	61.4	
LCS	Q767138	4	INDENO(1,2,3-CD)PYRENE	100		91.3	ug/L	91.3	<u> </u>
LCS	Q767138	HLI	ISOPHORONE	100		100	ug/L	100	
LCS	Q767138	HLI	2-METHYLNAPHTHALENE	100		84.2	ug/L	84.2	<u> </u>
LCS	Q767138	HLI	NAPHTHALENE	100		77.4	ug/L	77.4	
LCS	Q767138	HLI	2-NITROANILINE (O-NITROANILINE)	100		94	ug/L	94	<u> </u>
LCS	Q767138	HLI	3-NITROANILINE (M-NITROANILINE)	100		101.3	ug/L	101.3	
LCS	Q767138		4-NITROANILINE (P-NITROANILINE)	100		113.3	ug/L	113.3	
LCS	Q767138	1	NITROBENZENE	100		82.9	шg/L	82.9	
LCS	Q767138		N-NITROSODIPHENYLAMINE	100		153.1	ug/L	153.1	<u> </u>
LCS	Q767138		N-MITROSO-DI-N-PROPYLAMINE	100		92.8	ug/L	92.8	
LCS	Q767138		PHENANTHRENE	100		84.9	ug/L	84.9	
LCS	Q767138		2-PICOLINE	100		29.2	ug/L	29.2	
LCS	Q767138		PYRENE	100	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	90	ug/L	90	
LCS	Q767138		PYRIDINE	100		49.5	ug/t	49.5	
LCS	Q767138		TOLUENEDIAMINE	100		82.1	ug/L	82.1	ļ
LCS	Q767138		1.2,4-TRICHLOROBENZENE	100	***************************************	73.9	ug/L	73.9	
LCS	Q767138		BENZOIC ACID	100		0	ug/L	0	
LCS	Q767138		4-CHLORO-3-METHYLPHENOL	100		93.7	ug/L	93.7	
LCS	Q767138		2-CHLOROPHENOL	100	***************************************	80	ug/L	80	
CS	Q767138		2,4-DICHLOROPHENOL	100	***************************************	85.7	ug/L	85.7	
S	Q767138		2,4-DIMETHYLPHENOL	100	-1	86	ug/L	86	
LCS	Q767138		2.4-DINITROPHENOL	100		79.9	ug/L	79.9	
LCS	Q767138		2-METHYLPHENOL (O-CRESOL)	100		78.5	ug/L	78.5	
l I	Q767138		4-METHYLPHENOL (P-CRESOL)	100		68.5	ug/L	68.5	
LCS	Q767138		2-NITROPHENOL	100 100		89.9	ug/L	89.9 54.2	ļ
LCS	Q767138		4-NITROPHENOL			54.2	ug/L	· , · · T	
LCS	Q767138		PENTACHLOROPHENOL	100		131.3	ug/L	131.3 38	
LCS	Q767138 Q767138		PHENOL 2.4.5-TRICHLOROPHENOL	100		38 86.1	ug/L	86.1	
				100			ug/L	93.4	
LCS	Q767138	ยกา	2,4,6-TRICHLOROPHENOL	100		93.4	ug/L	95.4	<u> </u>

Analys	FOO1-FO st: B. BELL ver: B. MAZI	•	HOLS BY GC:FID SW846-8015A Analysis Date: 26-AUG-93 Instrument: GC/FID Review Date: 27-AUG-93 File ID: 455			Test: 0490.5.0 Run: R195273			
QC Type	Identifier	Source	Parameter	True/Sampl	Spike Val	Observed	Units	% Rec	RPD
ICV01	Q770248		METHANOL	24.88		23.8	mg/L	95.7	
ICV01	Q770248		ISOBUTANOL	25.33		24	mg/L	94.7	
[CV01	Q770248		2-NITROPROPANE	50		51.5	mg/L	103	
ICA01	0770248		N-BUTYL ALCOHOL	25,63		26.3	mg/L	102.6	
ICV01	Q770248		2-ETHOXYETHANOL	25		22.9	mg/L	91.6	
ICV01	Q77.0248		CYCLOHEXANONE	30.33		30.7	mg/L	101.2	
SPI01	Q770249	A287942	METHANOL	0	24.88	23.1	mg/L	92.8	l
SPI01	Q770249	A287942	ISOBUTANOL	0	25,33	22.9	mg/L	90.4	
SPI01	Q770249	A287942	2-NITROPROPANE	0	50	46.9	mg/L	93.8	
SPI01	Q770249	A287942	N-BUTYL ALCOHOL	0	25.63	25.7	mg/L	100.3	
101	Q770249	A287942	2-ETHOXYETHANOL	0	25	22.6	mg/L	90.4	
101	Q770249	A287942	CYCLOHEXANONE	0	30.33	29.2	mg/L	96,3	
DPS01	Q770250	A287942	METHANOL	0	24.88	22	mg/L	88.4	4.9
DPS01	Q770250	A287942	ISOBUTANOL	0	25.33	23.4	mg/L	92.4	2.2

Page 4

Lab Sample ID: A287943

QC Type	Identifier	Source	Parameter	True/Sampl	Spike Val	0bserved	Units	% Rec	RPD
DPS01	Q770250	A287942	2-NITROPROPANE	0	50	49.6	mg/L	99.2	5.6
^PS01	Q770250	A287942	N-BUTYL ALCOHOL	0	25.63	26	mg/L	101.4	1.1
S01	Q770250	A287942	2-ETHOXYETHANOL	0	25	22.6	mg/L	90.4	0
⊌PS01	Q770250	A287942	CYCLOHEXANONE	0	30.33	30.9	mg/L	101.9	5.7
BLA01	Q770247		METHANOL			BDL	mg/L		
BLA01	0770247		ISOBUTANOL			BDL	mg/L		
BLA01	Q770247		2-NITROPROPANE			BDL	mg/L		
BLA01	0770247		N-BUTYL ALCOHOL			BDL	mg/L		
BLA01	Q770247		2-ETHOXYETHANOL			BDL	mg/L		
BLA01	Q770247		CYCLOHEXANONE			BDL	mg/L		
SAMPLE	A287943		See Certificate of Analysis	,,,,,					
CCV	Q770251		METHANOL	24.88		23.8	mg/L	95.7	
CCV	Q770251		ISOBUTANOL	25.33		24.7	mg/L	97.5	
CCV	Q770251		2-NITROPROPANE	25	- 11 - 12 - 11 - 11 - 11 - 11 - 11 - 11	25.4	mg/L	101.6	
CCV	Q770251		N-BUTYL ALCOHOL	25.63		25.1	mg/L	97.9	
CCA	Q770251		2-ETHOXYETHANOL	25		24.7	mg/L	98.8	
CCV	Q770251		CYCLOHEXANONE	30.33		30	mg/L	98.9	

				· · · · · · · · · · · · · · · · · · ·	
			Notes		
			HOTE2		
DOL	D-1 D-44	1334			j
BDL	Below Detection D	Limit			
		# 1 1111 · ·			

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Heritage Laboratory, Indianapolis Volatile Continuing Calibration Report

Date Acquired: 27 Aug 93 GCMS#9 7:51 am Operator ID: REGINA

Misc. CALIBRATION CHECK 8/27/93 ta File: C:\I082793\2620J.D

thod: VOLCLP1 Title: QUANTITATION FOR VOLATILES

Last Calibration Update: Thu Aug 26 08:41:40 1993

P = SPCC Min RF = 0.05 M = Matrix Spike Compound C = CCC Max Dev = 25%S = Surrogate I = ISTD

cal50 = 1942J.D cal200 = 1945J.D call00 = 1943J.Dcal20 = 1941J.D

cal150 = 1944J.D

Ca1150 =	1944J.D Ca1200 = 1945J.D			
PK#	Compound	•	CCRRF	
1 I 2 P 3 C 5 6 7 8 9 10 11 12 CM 11 15 6 7 8 19 20 C 21 22 23 24 25 26 S	BROMOCHLOROMETHANE Dichlorodifluoromethane Chloromethane Vinyl Chloride Bromomethane Chloroethane Trichlorofluoromethane Diethyl ether Acrolein Acetone Trichlorotrifluoroethane 1,1-Dichloroethene Methylene Chloride Acrylonitrile Carbon Disulfide Vinyl acetate Methyl-t-butyl ether 1,2-Dichloroethene(trans) Diisopropyl ether 1,1-Dichloroethane 2-Butanone Ethyl acetate 1,2-Dichloroethene(cis) Chloroform Tetrahydrofuran 1,2-Dichloroethane-d4	1.000 1.207 0.901 0.774 1.090 0.410 2.175 0.534 0.037 0.233 2.084 1.092 1.249 0.242 2.495 0.242 2.495 0.376 1.498 3.118 0.281	1.000 0.791 0.772 0.786 1.109 0.534 2.088 0.612 0.003# 0.261 2.109 1.270 1.421 0.331 2.936 0.570 2.285 1.529 4.741 2.668 0.453 1.114 1.463 2.962 0.290	0.0 34.5 14.3 1.5 1.8 30.4 4.0 14.7 92.4 12.2 1.2 16.2 13.8 36.7 17.7 2.3 2.0 10.8 10.5 2.8 20.4 6.7 2.4 5.0 3.2 6.3
28 29 30 31 CM 32 M 33 C 34 35 36 37 38 S 39 CM 40	1,1,1-Trichloroethane Carbon Tetrachloride 1,2-Dichloroethane Benzene Trichloroethene 1,2-Dichloropropane Bromodichloromethane 2-Chloroethylvinylether 4-Methyl-2-Pentanone cis-1,3-Dichloropropene Toluene-d8 Toluene trans-1,3-Dichloropropene	0.630 0.575 0.437 0.894 0.560 0.448 0.777 0.221 0.491 0.661 0.930 0.665 0.483	0.583 0.507 0.381 0.906 0.503 0.455 0.714 0.178 0.507 0.664 0.919 0.695 0.472	7.6 11.9 12.6 1.4 10.2 1.5 8.1 19.5 3.2 0.4 1.2 4.5 2.2
41 I 2 3	CHLOROBENZENE-d5 2-Hexanone 1,1,2-Trichloroethane	1.000 0.276 0.512	1.000 0.290 0.490	0.0 5.0 4.3

Heritage Laboratory, Indianapolis Volatile Continuing Calibration Report

)perator ID: REGINA 7:51 am

Date Acquired: 27 Aug 93 GCMS#9___ \ata File: C:\I082793\2620J.D Misc. CALIBRATION CHECK 8/27/93

Title: QUANTITATION FOR VOLATILES thod: VOLCLP1

__st Calibration Update: Thu Aug 26 08:41:40 1993

C = CCC Max Dev = 25%
I = ISTD P = SPCC Min RF = 0.05 M = Matrix Spike Compound

cal50 = 1942J.D cal200 = 1945J.D calloo = 1943J.Dcal20 = 1941J.D

call50 = 1944J.D

PK#	Compound	AvgRRF	CCRRF	%Dev	
44 45	Tetrachloroethene Dibromochloromethane	0.576 0.863	0.535 0.813	7.1 5.8	
46 PM 47 C 48	Chlorobenzene Ethylbenzene Xylene(m,p)	1.117 0.459 0.555	1.093 0.478 0.609	2.1 4.2 9.7	
49 50	Xylene(o) Styrene	0.571 1.017	0.593 1.075	3.9 5.7	
51 P 52 P 53 S	Bromoform 1,1,2,2-Tetrachloroethane Bromofluorobenzene	0.626 0.620 0.874	0.598 0.674 0.827	4.5 8.7 5.4	
53 S 54 55	1,3-Dichlorobenzene 1,4-Dichlorobenzene	0.874 0.971 1.013	0.827 0.998 1.019	2.8 0.6	
56	1,2-Dichlorobenzene	0.944	0.944	0.0	

(#) = Out of Range

2600J.D

VOLCLP1.M

Fri Aug 27 08:29:22 1993

FMGR

HERITAGE LABORATORIES, INC VOLATILES ANALYSIS-WATER METHOD BLANK ANALYSIS METHOD: SW846-8240

NOTE:

MASS SPEC FILE: >2621J ANALYSIS DATE/TIME: 8/27/93 8:45

TARGET COMPOUND LIST	RESULT	UNITS	DET. LIMIT
Acetone	BDL	uG/L	20
Acrolein	BDL	uG/L	50
Acrylonitrile	BDL	uG/L	70
Benzene	BDL	uG/L	5
Bromodichloromethane	BDL	uG/L	5
Bromoform	BDL	uG/L	5
Bromomethane		uG/L	10
Carbon disulfide		uG/L	5
Carbon tetrachloride		uG/L	5
Chlorobenzene		uG/L	5
Chloroethane	BDL	uG/L	10
Chloroform	BDL	uG/L	Š
Chloromethane	BDL	uG/L	10
Dibromochloromethane		uG/L	5
cis-1,3-Dichloropropene			
		uG/L	5 5
Dichlorodifluoromethane		uG/L	5
1,1-Dichloroethane	BDL	uG/L	. 5
1,2-Dichloroethane	BDL	uG/L	5
1,1-Dichloroethene	BDL	uG/L	5
1,2-Dichloropropane	BDL	uG/L	5 5
Ethylbenzene	BDL	uG/L	5
Fluorotrichloromethane		uG/L	5
2-Hexanone	BDL	uG/L	10
Methylene chloride	BDL	uG/L	5
Methyl ethyl ketone	BDL	uG/L	10
4-Methyl-2-pentanone	BDL	uG/L	10
Styrene	BDL	uG/L	5
1,1,2,2-Tetrachloroethane	BDL	uG/L	5
Tetrachloroethene	BDL	uG/L	5
Tetrahydrofuran	BDL	uG/L	25
Toluene	BDL	uG/L	5
1,2-Dichloroethene (total)	BDL	uG/L	5
trans-1,3-Dichloropropene	BDL	uG/L	5
1,1,1-Trichloroethane	BDL	uG/L	5
1,1,2-Trichloroethane	BDL	uG/L	5
Trichloroethene	BDL	uG/L	5
Vinyl acetate	BDL	uG/L	10
Vinyl chloride	BDL	uG/L	10
Xylenes (total)	BDL		5
Ayrenes (Lucar)	BUL	uG/L	3
SURROGATE LIST			enika sana
	06	ev Doo	spike conc
Dichloroethane-d4		% Rec	50 50
Toluene-d8	100	% Rec	
Bromofluorobenzene	yo	% Rec	50
() = ESTIMATED CONCENTRATIO	N 	h	allered by
On this instrument, packed	column nas	peen re	placed by
capillary column with 8240	criteria.		

Heritage Laboratory, Indianapolis Volatile Continuing Calibration Report

Date Acquired: 29 Aug 93 7:59 am
GCMS#9 Misc. CALIBRATION CHECK 8/29/93
Title: QUANTITATION FOR VOLATILES

c = CCC Max Dev = 25%
S = Surrogate I P = SPCC Min RF = 0.05 M = Matrix Spike Compound I = ISTD

cal20 = 1941J.D cal150 = 1944J.D cal50 = 1942J.D cal200 = 1945J.D calloo = 1943J.D

PK#	Compound	AvgRRF	CCRRF	%Dev
1 I 2 T 3 P 4 C 5 6 7 8 9 10 11 12 CM 13 14 15 16 7 8 19 P 20 P 21 22 C 24 25 S	BROMOCHLOROMETHANE Dichlorodifluoromethane Chloromethane Vinyl Chloride Bromomethane Chloroethane Trichlorofluoromethane Diethyl ether Acrolein Acetone Trichlorotrifluoroethane 1,1-Dichloroethene Methylene Chloride Acrylonitrile Carbon Disulfide Vinyl acetate Methyl-t-butyl ether 1,2-Dichloroethene(trans) Diisopropyl ether 1,1-Dichloroethane 2-Butanone Ethyl acetate 1,2-Dichloroethene(cis) Chloroform Tetrahydrofuran 1,2-Dichloroethane-d4 1.4-DIFLUOROBENZENE	1.000 1.207 0.901 0.774 1.090 0.410 2.175 0.534 0.037 0.233 2.084 1.092 1.249 0.242 2.495 0.583 2.240 1.380 4.289 2.596 0.376 1.044 1.498 3.118 0.281 1.367	1.000 0.567 0.676 0.710 1.035 0.504 1.953 0.631 0.001# 0.251 2.192 1.233 1.428 0.292 2.832 0.566 2.292 1.517 4.931 2.704 0.478 1.131 1.472 3.097 0.303 1.289	0.0 53.1 24.9 8.2 5.0 22.9 10.2 18.2 97.3 7.7 5.1 12.9 14.3 20.5 13.5 2.9 2.3 9.9 15.0 4.2 27.2 8.4 1.7 0.7 8.0 5.7
28 29 30	1,1,1-Trichloroethane	0.630 0.575 0.437	0.572 0.496	9.2 13.8 14.6
41 I 2 3	CHLOROBENZENE-d5 2-Hexanone 1,1,2-Trichloroethane	1.000 0.276 0.512	1.000 0.292 0.497	0.0 5.9 3.0

Heritage Laboratory, Indianapolis Volatile Continuing Calibration Report

C = CCC Max Dev = 25% P = SPCC Min RF = 0.05I = ISTD S = Surrogate M = Matrix Spike Compound

cal50 = 1942J.D cal200 = 1945J.D calloo = 1943J.Dcal20 = 1941J.D

call50 = 1944J.D

PK#	Compound	AvgRRF	CCRRF	%Dev
44 45 46 PM 47 C 48 49 50 51 P 52 P 53 S 54 55	Tetrachloroethene Dibromochloromethane Chlorobenzene Ethylbenzene Xylene(m,p) Xylene(o) Styrene Bromoform 1,1,2,2-Tetrachloroethane Bromofluorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,2-Dichlorobenzene	0.576 0.863 1.117 0.459 0.555 0.571 1.017 0.626 0.620 0.874 0.971 1.013 0.944	0.525 0.802 1.089 0.484 0.601 0.591 1.065 0.588 0.663 0.837 1.001 1.004 0.927	8.9 7.1 2.5 5.7 8.3 3.5 4.7 6.1 6.9 4.2 3.0 0.9 1.8

(#) = Out of Range 2640J.D VOLCLP1.M Sun Aug 29 08:38:57 1993

FMGR

HERITAGE LABORATORIES, INC VOLATILES ANALYSIS-WATER METHOD BLANK ANALYSIS METHOD: SW846-8240

MASS SPEC FILE: >2641J ANALYSIS DATE/TIME: 8/29/93 8:54

TARGET COMPOUND LIST	RESULT	UNITS	DET. LIMIT
Acetone		uG/L	20
Acrolein		uG/L	50
Acrylonitrile	BDL	uG/L	70
Benzene	BDL	uG/L	5
Bromodichloromethane	BDL	uG/L	5
Bromoform	BDL	uG/L	5
Bromomethane	BDL	uG/L	10
Carbon disulfide	BDL	uG/L	5
Carbon tetrachloride	BDL	uG/L	5 5 5
Chlorobenzene		uG/L	
Chloroethane	BDL	uG/L	10
Chloroform	BDL	uG/L	5
Chloromethane		uG/L	10
Dibromochloromethane		uG/L	5
cis-1,3-Dichloropropene	BDL	uG/L	5
Dichlorodifluoromethane		uG/L	5
1,1-Dichloroethane		uG/L	5
1,2-Dichloroethane	BDL	uG/L	5
1,1-Dichloroethene		uG/L	5 5 5 5 5 5 5 5 5
1,2-Dichloropropane		uG/L	5
Ethylbenzene	BDL	uG/L	5
Fluorotrichloromethane		uG/L	5
2-Hexanone		uG/L	10
Methylene chloride		uG/L	5
Methyl ethyl ketone		uG/L	10
4-Methyl-2-pentanone		uG/L	10
Styrene		uG/L	5
1,1,2,2-Tetrachloroethane		uG/L	5 5 5
Tetrachloroethene		uG/L	5
Tetrahydrofuran		uG/L	25
Toluene		uG/L	5
1,2-Dichloroethene (total).		uG/L	5
trans-1,3-Dichloropropene		uG/L	5
1,1,1-Trichloroethane	BDL	uG/L	5
1,1,2-Trichloroethane		uG/L	5 5 5 5 5
Trichloroethene		uG/L	5
Vinyl acetate		uG/L	10
Vinyl chloride		uG/L	10
Xylenes (total)		uG/L	5
SURROGATE LIST			spike conc
Dichloroethane-d4	96	% Rec	50
Toluene-d8		% Rec	50
Bromofluorobenzene		% Rec	50
() = ESTIMATED CONCENTRATI		<i>7</i>	••
NOTE: On this instrument, packed	Column has	heen re	nlaced by
capillary column with 8240	criteria.	20011 10	r. 200
oup it and out and with out to			

Heritage Laboratory, Indianapolis Semi-volatile Continuing Calibration Report

Operator ID: Date Acquired: 31 Aug 93 9:
Pata File: C:\F083193\4243F.D GCMS#6
Sc. 50 ug/mL
Lthod: CALPEST.M Title: CLP BNA Calibration
Last Calibration Update: Tue Aug 31 11:18:31 1993 9:04 am

I = ISTD

P = SPCC Min RF = 0.05 M = Matrix Spike Compound cal80 = 4126F.D

C = CCC Max Dev = 25% S = Surrogate I cal20 = 4124F.D cal120 = 4125F.D cal

cal50 = 4123F.D cal160 = 4122F.D

PK#	Compound	AvgRRF	CCRRF	%Dev
1 I 2 3 4 5 S 6 7 S 8 MC 9 10 S 11 MC 12 13 MC 14 S 15 16 7 8 19 MP 20 21	1,4-Dichlorobenzene-d4 N-nitroso-dimethylamine Pyridine 2-Picoline 2-Fluorophenol Aniline Phenol-d5 Phenol bis(2-Chloroethyl)ether 2-Chlorophenol-d4 2-Chlorophenol 1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,2-Dichlorobenzene 1,2-Dichlorobenzene Benzyl alcohol 2-Methylphenol bis(2-chloroisopropyl)ether n-Nitroso-di-n-propylamine 4-Methylphenol Hexachloroethane	0.816 0.936 0.869 1.385 1.090	0.886 0.889 0.892 1.651 1.144	8.6 5.0 2.6 19.2 4.9
22 I 23 S 24 25 C 27 28 C 30 M 31 M 32 33 34 C 36 MC 37	Naphthalene-d8 Nitrobenzene-d5 Nitrobenzene Isophorone 2-Nitrophenol 2,4-Dimethylphenol bis(2-Chloroethoxy)methane 2,4-Dichlorophenol Benzoic acid 1,2,4-Trichlorobenzene Naphthalene 4-Chloroaniline Toluenediamine Hexachlorobutadiene 4-Chloro-3-methylphenol 2-Methylnaphthalene	1.000 0.333 0.356 0.691 0.216 0.330 0.435 0.329 0.209 0.348 0.981 0.011 0.251 0.315 0.624	1.000 0.372 0.397 0.717 0.236 0.338 0.458 0.331 0.185 0.351 1.044 0.454 0.004 0.242 0.327 0.677	0.0 11.9 11.6 3.8 9.2# 2.7 5.3 0.6# 11.5 1.1 6.4 61.5# 64.5# 3.6# 3.7# 8.5
38 I 39 P 40 41 C 42 3 S	Acenaphthene-d10 Hexachlorocyclopentadiene 1,2,4,5-Tetrachlorobenzene 2,4,6-Trichlorophenol 2,4,5-Trichlorophenol 2-Fluorobiphenyl	1.000 0.307 0.631 0.406 0.435 1.148	1.000 0.259 0.680 0.423 0.460 1.266	0.0 15.6 7.6 4.1# 5.6 10.3

Heritage Laboratory, Indianapolis Semi-volatile Continuing Calibration Report

Operator ID: Date Acquired: 31 Aug 93
Pata File: C:\F083193\4243F.D GCMS#6 9:04 am

sc. 50 ug/mL thod: CALPEST.M Title: CLP BNA Calibra ast Calibration Update: Tue Aug 31 11:18:31 1993 Title: CLP BNA Calibration

C = CCC Max Dev = 25%I = ISTD S = Surrogate

P = SPCC Min RF = 0.05 M = Matrix Spike Compound cal80 = 4126F.D

cal20 = 4124F.D cal120 = 4125F.D cal50 = 4123F.D cal160 = 4122F.D

PK# Compound AvgRRF CCRRF %Dev 44 2-Chloronaphthalene 1.102 1.192 8.2 45 2-Nitroaniline 0.364 0.439 20.8 46 Dimethylphthalate 1.363 1.396 2.4 47 1,3-Dinitrobenzene 0.226 0.262 15.5 48 2,6-Dinitrotoluene 0.354 0.380 7.3 49 Acenaphthylene 1.775 1.913 7.8 50 3-Nitroaniline 0.338 0.415 22.9 51 MC Acenaphthene 1.095 1.160 5.9# 52 P 2,4-Dinitrophenol 0.181 0.167 8.3 53 MP 4-Nitrophenol 0.181 0.146 19.3 54 Dibenzofuran 1.552 1.665 7.3 55 M 2,4-Dinitrotoluene 0.453 0.492 8.6 56 2,3,4,6-Tetrachlorophenol 0.406 0.377 7.2	
44 2-Chloronaphthalene 1.102 1.192 8.2 45 2-Nitroaniline 0.364 0.439 20.8 46 Dimethylphthalate 1.363 1.396 2.4 47 1,3-Dinitrobenzene 0.226 0.262 15.5 48 2,6-Dinitrotoluene 0.354 0.380 7.3 49 Acenaphthylene 1.775 1.913 7.8 50 3-Nitroaniline 0.338 0.415 22.9 51 MC Acenaphthene 1.095 1.160 5.9#	
52 P 2,4-Dinitrophenol 0.154 0.167 8.3 53 MP 4-Nitrophenol 0.181 0.146 19.3 54 Dibenzofuran 1.552 1.665 7.3 55 M 2,4-Dinitrotoluene 0.453 0.492 8.6 56 2,3,4,6-Tetrachlorophenol 0.406 0.377 7.2 57 Diethylphthalate 1.550 1.505 3.0 58 Fluorene 1.235 1.326 7.4 59 4-Chlorophenyl-phenylether 0.692 0.732 5.7 0 4-Nitroaniline 0.387 0.437 13.0	
ol I Phenanthrene-dl0 1.000 1.000 0.0 62 4,6-Dinitro-2-methylphenol 0.138 0.157 13.9 63 C n-Nitrosodiphenylamine 0.432 0.452 4.7# 64 S 2,4,6-Tribromophenol 0.155 0.123 20.8 65 alpha-BHC 0.138 0.134 3.4 66 4-Bromophenyl-phenylether 0.225 0.219 2.6 67 Hexachlorobenzene 0.318 0.242 24.1 68 beta-BHC 0.124 0.103 16.8 69 MC Pentachlorophenol 0.151 0.131 13.2# 70 gamma-BHC 0.129 0.118 8.6 71 Phenanthrene 0.929 1.004 8.0 72 Anthracene 0.973 1.049 7.8 73 delta-BHC 0.121 0.103 14.6 74 Carbazole 0.728 0.860 18.1 75 Heptachlor 0.131 0.120 8.4 76 Di-n-butylphthalate 1.274	
80 I Chrysene-dl2 1.000 1.000 0.0 81 Benzidine 0.308 0.369 20.0 82 M Pyrene 1.235 1.124 9.0 83 alpha-Endosulfan 0.044 0.027 38.6# 84 p,p'-DDE 0.295 0.213 27.7# 5 S Terphenyl-dl4 0.947 0.807 14.8 Dieldrin 0.185 0.178 4.3	

Heritage Laboratory, Indianapolis Semi-volatile Continuing Calibration Report

9:04 am Date Acquired: 31 Aug 93 Operator ID:

Pata File: C:\F083193\4243F.D

sc. 50 ug/mL
..ethod: CALPEST.M Title: CLP BNA Calibra
Last Calibration Update: Tue Aug 31 11:18:31 1993 Title: CLP BNA Calibration

C = CCC Max Dev = 25%I = ISTD S = Surrogate cal20 = 4124F.D

P = SPCC Min RF = 0.05M = Matrix Spike Compound cal80 = 4126F.D

ca150 = 4123F.Dcal120 = 4125F.Dcall60 = 4122F.D

PK#	Compound	AvgRRF	CCRRF	%Dev
87 88 89 90 91 92 93 94 95 96 97	Endosulfan sulfate p,p'-DDT Benzo[a]anthracene 3,3'-Dichlorobenzidine	1.084 0.267	0.000 0.041 0.394 0.661 0.077 0.337 1.135 0.434 1.037	14.5 15.1 1.9 14.6 5.2 4.7 62.6#
99 C 100 101 2 C 3	Benzo[b]fluoranthene Benzo[k]fluoranthene Benzo[a]pyrene Indeno[l,2,3-cd]pyrene Dibenz[a,h]anthracene		1.815 1.265 1.259 1.222 1.235 0.971	0.0 1.2# 1.2 4.5 8.5# 8.4 1.6 3.3

(#) = Out of Range 4243F.D

of Range SPCC's out = 0 CCC's out = 14 CALPEST.M Wed Sep 01 10:17:39 1993 RPT1

HERITAGE LABORATORIES, INC SEMI-VOLATILES ANALYSIS-WATER METHOD BLANK ANALYSIS METHOD: SW846-8270

MASS SPEC FILE: >5493H

SVL# 621-663

ANALYSIS DATE/TIME: 8/31/93 01:07

PREP DATE: 8/22/93

TARGET COMPOUND LIST	RE	SULT	UNITS	DET.	LIMIT
Acenaphthene		BDL	uG/L	10	
Acenapthylene		BDL	uG/L	10	
Anthracene		BDL	uG/L	10	
Benz(a)anthracene		BDL	uG/L	10	
Benzo(a)pyrene		BDL	uG/L	10	
		BDL	uG/L	10	
Benzo(b) fluoranthene		BDL	uG/L	10	
Benzo(ghi)perylene		BDL		10	
Benzo(k)fluoranthene			uG/L		
Benzyl Alcohol		BDL	uG/L	10	
Benzylbutylphthalate		BDL	uG/L	10	
Bis(2-chloroethoxy)methane	• • •	BDL	uG/L	10	
Bis(2-chloroethyl)ether		BDL	uG/L	10	
Bis(2-chloroisopropyl)ether.	• • •	BDL	uG/L	10	
Bis(2-ethylhexyl)phthalate		BDL	uG/L	10	
4-Bromophenylphenylether		BDL	uG/L	10	
Carbazole		BDL	uG/L	10	
4-Chloroaniline		BDL	uG/L	10	
2-Chloronaphthalene		BDL	uG/L	10	
4-Chlorophenylphenylether		BDL	uG/L	10	
Chrysene		BDL	uG/L	10	
Dibenz(a,h)anthracene		BDL	uG/L	10	
Dibenzofuran		BDL	uG/L	10	
1,2-Dichlorobenzene		BDL	uG/L	10	
1,3-Dichlorobenzene		BDL	uG/L	10	
1,4-Dichlorobenzene		BDL	uG/L	10	
		BDL	uG/L	20	
3,3' -Dichlorobenzidine		BDL		10	
Diethylphthalate			uG/L	10	
Dimethylphthalate	• • •	BDL	uG/L		
Di-n-butylphthalate		BDL	uG/L	10	
Dinitrobenzenes		BDL	uG/L	50	
2,4-Dinitrotoluene		BDL	uG/L	10	
2,6-Dinitrotoluene		BDL	uG/L	10	
Di-n-octylphthalate		BDL	uG/L	10	
Fluoranthene		BDL	uG/L	10	
Fluorene		BDL	uG/L	10	
Hexachlorobenzene		BDL	uG/L	10	
Hexachlorobutadiene		BDL	uG/L	10	
Hexachlorocyclopentadiene		BDL	uG/L	10	
Hexachloroethane		BDL	uG/L	10	
<pre>Indeno(1,2,3-cd)pyrene</pre>		BDL	uG/L	10	
Isophorone		BDL	uG/L	10	
2-Methylnaphthalene		BDL	uG/L	10	
Naphthalene		BDL	uG/L	10	
naphonasene	• • •		uu/ L		

MASS SPEC FILE: >5493H

2-Nitroaniline. 3-Nitroaniline. 4-Nitroaniline. Nitrobenzene. N-Nitroso-diphenylamine. N-Nitroso-di-n-propylamine. Phenanthrene. 2-Picoline. Pyrene. Pyridine. Tetrachlorobenzenes. Toluenediamine. 1,2,4-Trichlorobenzene. Benzoic Acid. 4-Chloro-3-methylphenol. 2,4-Dichlorophenol. 2,4-Dimethylphenol. 4,6-Dinitro-2-methylphenol. 2,4-Dinitrophenol. 2,4-Dinitrophenol. 4-Methylphenol. 4-Methylphenol. 4-Nitrophenol. 4-Nitrophenol. Pentachlorophenol. Pentachlorophenol. Tetrachlorophenol.	BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL	uG/L uG/L uG/L uG/L uG/L uG/L uG/L uG/L	50 50 10 10 10 10 50 10 10 10 10 10 50 10
2,4,5-Trichlorophenol	BDL BDL	uG/L uG/L	50 10
SURROGATE LIST 2-Fluorophenol Phenol-d5 Nitrobenzene-d5 2-Fluorobiphenyl 2,4,6-Tribromophenol Terphenyl-d14 () = ESTIMATED CONCENTRATION	53 36 64 56 76 88	% Rec % Rec % Rec % Rec % Rec % Rec % Rec	ike conc 100 100 50 50 100

QUALITY ASSURANCE

Service Location	Received	Lab ID
HERITAGE LABORATORIES, INC.	24-AUG-93	A287944
7901 W. MORRIS ST.	Complete	PO Number
INDIANAPOLIS, IN 46231	31-AUG-93	63033
(317)243-8305	Printed	Sampled
	31-AUG-93	23-AUG-93 15:35

Sample Description

SAMPLE ID: TAP
DESCRIPTION: TAP WATER USED IN RINSE
LOCATION: DUPONT AP PLANT TOLEDO

Analys	it : R. SHA	LE ORGANICS SW846-8240A R. SHAMP Analysis Date: 27-AUG-93 Instrument: 6C/MS VOA Test: 0510.3.0 A. BRADBURN Review Date: 30-AUG-93 File 10: >2634J Run: R195306							
QC Type	Identifier	Source	Parameter	True/Sampl	Spike Val	Observed	Units	% Rec	RPD
CCV	Q770498	1	See Attached Report g2620j.ind			}			
BLA01	Q770499		See Attached Report g2621j.ind						
SAMPLE	A287944		See Certificate of Analysis						
CS01	Q77050 4		ACETONE	20		20.5	ug/L	102.5	
.CS01	0770504	EMS	BENZENE	20		18.4	ug/L	92	
CS01	Q77050 4	EMS	BROMODICHLOROMETHANE	20		17	ug/L	85	4
CS01	Q770504		BROMOFORM	20		14.8	ug/L	74	
CS01	Q770504	EMS	BROMOMETHAME	20		17.6	ug/L	88	
.CS01	Q770504	EMS	CARBON DISULFIDE	20		14.6	ug/L	73	
CS01	Q770504		CARBON TETRACHLORIDE	20		15.5	ug/L	77.5	
CS01	Q77050 4	EMS	CHLOROBENZENE	20		18	ug/L	90	
01	0770504	EMS	CHLOROETHANE	20		17.6	ug/L	88	
01	Q77050 4	EMS	CHLOROFORM	20		17	ug/L	85	
CS01	0770504	EMS	CHLOROMETHANE	20		16.6	ug/L	83	
CS01	Q77050 4	EMS	DIBROMOCHLOROMETHANE	20		15.7	ug/L	78.5	
CS01	Q770504	EMS	CIS-1,3-DICHLOROPROPENE	20		17.4	ug/L	87	
.CS01	Q770504	EMS	1,1-DICHLOROETHANE	20		17.9	ug/L	89.5	
CS01	Q770504	EMS	1,2-DICHLOROETHANE	20		19	ug/L	95	
CS01	Q77050 4	EMS	1,1-DICHLOROETHENE	20		16.6	ug/L	83	
CS01	Q770504	EMS	1,2-DICHLOROPROPANE	20		18.4	ug/L	92	
.CS01	Q770504	EMS	ETHYL BENZENE	20		17.3	ug/L	86.5	
CSOL	Q77Q504	EMS	FLUOROTRICHLOROMETHANE	20		16.2	ug/L	81	
CS01	Q770504	EMS	2-HEXANONE	20		18.5	ug/L	92.5	}
CS01	Q770504	EMS	DICHLOROMETHANE (METHYLENE CHLORIDE	20		19.1	ug/L	95.5	
CS01	Q770504	EMS	METHYL ETHYL KETONE	20		20.3	ug/L	101.5	
CS01	Q7705 0 4	EMS	4-METHYL-2-PENTANONE	20		14.1	ug/L	70.5	
CS01	Q77050 4	EMS	STYRENE	20		17.2	ug/L	86	
CS01	Q770504	EMS	1,1,2,2-TETRACHLOROETHANE	20		19.2	uq/L	96	
CS01	Q770504		TETRACHLOROETHENE	20		17.4	ug/L	87	1
cso1	Q770504		TOLUENE	20		18.1	ug/L	90.5	4
CS01	Q770504		TRANS-1.3-DICHLOROPROPENE	20		17.3	ug/L	86.5	1
CS01	Q770504		1.1.1-TRICHLOROETHANE	20		17.4	ua/L	87	1
CS01	Q770504		1.1.2-TRICHLOROETHANE	20		18.3	ug/L	91.5	
CS01	0770504		TRICHLOROETHENE	20		17,8	ug/L	89	
CS01	Q770504		VINYL ACETATE	20		18.5	ug/L	92.5	
CS01	0770504	. 	VINYL CHLORIDE	20		16.7	ug/L	83.5	ļ
CS01	0770504		TETRAHYDROFURAN ~	50		50.4	ug/L	100.8	1

Quality Assurance Officer:

Last Page 1

QUALITY ASSURANCE REPORT

Service Location	Received	Lab ID
HERITAGE LABORATORIES, INC.	24-AUG-93	A287945
7901 W. MORRIS ST.	Complete	PO Number
INDIANAPOLIS, IN 46231	31-AUG-93	63033
(317)243-8305	Printed	Sampled
	31-AUG-93	23-AUG-93 15:30

Sample Description

SAMPLE ID: FIELD
DESCRIPTION: DI WATER FILLED IN RM
LOCATION: DUPONT AP PLANT TOLEDO

Analys	TILE ORG it : R. SHAV ver: A. BRAV	4P	Analysis Date: 27-AUG-93 Instrument: GC/MS VOA Test: 0510:3. Review Date: 30-AUG-93 File ID: >2623J Run: R195306								
QC Type	Identifier	Source	Parameter	True/Sampl	Spike Val	0bserved	Units	% Rec	RPD		
CCV	Q770498		See Attached Report g2620j.ind	1					1		
BLA01	Q770499		See Attached Report g2621j.ind								
SAMPLE	A287945		See Certificate of Analysis		<u> </u>				<u> </u>		
LCS01	0770504	EMS	ACETONE	20		20.5	ug/L	102.5	1		
LCS01	Q770504	EMS	BENZENE	20		18.4	ug/L	92			
LCSO1	Q770504	EMS	BROMODICHLOROMETHANE	20		17	ug/L	85			
LCS01	Q770504	EMS	BROMOFORM	20		14.8	ug/L	74			
LCS01	Q770504	EMS	BROMOMETHANE	20		17.6	ug/L	88			
LCS01	Q770504		CARBON DISULFIDE	20		14.6	ug/L	73	ļ		
LCS01	Q770504	EMS	CARBON TETRACHLORIDE	20		15.5	ug/L	77.5			
LCS01	Q77050 4	EMS	CHLOROBENZENE	20		18	ug/L	90			
01	Q77050 4	EMS	CHLOROETHANE	20		17.6	ug/L	88			
S01	Q77050 4	EMS	CHLOROFORM	20		17	ug/L	85			
LCS01	Q77050 4	EMS	CHLOROMETHANE	20		16.6	ug/L	83			
LCS01	Q77050 4	EMS	DIBROMOCHLOROMETHANE	20		15.7	ug/L	78.5			
LCS01	Q77.0504	EMS	CIS-1,3-DICHLOROPROPENE	20		17.4	ug/L	87			
LCS01	Q77050 4	EMS	1,1-DICHLOROETHANE	20		17.9	ug/L	89.5	1		
CS01	Q770504	EMS	1,2-DICHLOROETHANE	20		19	ug/L	95			
LCS01	Q77050 4	EMS	1,1-DICHLOROETHENE	20		16.6	ug/L	83			
LCS01	Q770504	EMS	1,2-DICHLOROPROPANE	20		18.4	ug/L	92			
LCS01	Q770504	EMS	ETHYL BENZENE	20		17.3	ug/L	86.5			
LCS01	Q77Q504	EMS	FLUOROTRICHLOROMETHANE	20		16.2	ug/L	81			
LCS01	Q770504	EMS	2-HEXANONE	20		18.5	ug/L	92.5			
CS01	Q770504	EMS	DICHLOROMETHANE (METHYLENE CHLORIDE	20		19.1	ug/L	95.5			
LCS01	Q770504		METHYL ETHYL KETONE	20		20.3	ug/L	101.5			
CS01	Q770504	*****	4-METHYL-2-PENTANONE	20		14.1	ug/L	70.5	4		
LCS01	Q770504	EMS	STYRENE	20		17.2	ug/L	86			
CS01	Q770504		1,1,2,2-TETRACHLOROETHANE	20		19.2	ug/L	96			
LCS01	Q770504		TETRACHLOROETHENE	20		17.4	ug/L	87			
LCS01	Q770504	*****************	TOLUENE	20		18.1	ug/L	90.5			
LCS01	Q770504		TRANS-1,3-DICHLOROPROPENE	20		17.3	ug/L	86.5	.[
CS01	Q770504		1,1,1-TRICHLOROETHANE	20		17.4	ug/L	87			
LCS01	Q770504		1,1,2-TRICHLOROETHANE	20		18.3	ug/L	91.5			
CS01	0770504		TRICHLOROETHENE	20		17.8	ug/L	89	1		
CS01	Q770504		VINYL ACETATE	20		18.5	ug/L	92.5			
CS01	Q770504		VINYL CHLORIDE	20		16.7	ug/L	83.5			
S01	Q770504		TETRAHYDROFURAN	50-		50.4	ug/L	100.8			

Quality Assurance Officer:

Heritage Laboratory, Indianapolis Volatile Continuing Calibration Report

Date Acquired: 27 Aug 93 7:51 am
GCMS#9 Misc. CALIBRATION CHECK 8/27/93
Title: QUANTITATION FOR VOLATILES Operator ID: REGINA
Pata File: C:\I082793\2620J.D
thod: VOLCLPI

st Calibration Update: Thu Aug 26 08:41:40 1993

P = SPCC Min RF = 0.05 M = Matrix Spike Compound C = CCC Max Dev = 25% I = ISTD S = Surrogate

cal20 = 1941J.D cal150 = 1944J.D cal50 = 1942J.D cal200 = 1945J.D call00 = 1943J.D

PK#	Compound	AvgRRF	CCRRF	%Dev
1 I 2 T 3 P 4 C 5 6 7 8 9 10 11 12 CM 13 14 15 16 7 9 P 20 P 21 22 23 C 24 25 S	BROMOCHLOROMETHANE Dichlorodifluoromethane Chloromethane Vinyl Chloride Bromomethane Chloroethane Trichlorofluoromethane Diethyl ether Acrolein Acetone Trichlorotrifluoroethane 1,1-Dichloroethene Methylene Chloride Acrylonitrile Carbon Disulfide Vinyl acetate Methyl-t-butyl ether 1,2-Dichloroethene(trans) Diisopropyl ether 1,1-Dichloroethane 2-Butanone Ethyl acetate 1,2-Dichloroethene(cis) Chloroform Tetrahydrofuran 1,2-Dichloroethane-d4 1.4-DIFLUOROBENZENE	1.000 1.207 0.901 0.774 1.090 0.410 2.175 0.534 0.233 2.084 1.092 1.249 0.242 2.495 0.242 2.495 0.583 2.240 1.380 4.289 2.596 0.376 1.498 3.118 0.281 1.367	1.000 0.791 0.772 0.786 1.109 0.534 2.088 0.612 0.003# 0.261 2.109 1.270 1.421 0.331 2.936 0.570 2.285 1.529 4.741 2.668 0.453 1.114 1.463 2.962 0.290 1.281	0.0 34.5 14.3 1.5 1.8 30.4 4.0 14.7 92.4 12.2 1.2 16.2 13.8 36.7 17.7 2.3 2.0 10.8 10.5 2.8 20.4 6.7 2.4 5.0 3.2 6.3
28	1,1,1-Trichloroethane Carbon Tetrachloride 1,2-Dichloroethane Benzene	0.630 0.575 0.437 0.894 0.560 0.448 0.777 0.221 0.491 0.661 0.930	0.583	7.6

Heritage Laboratory, Indianapolis Volatile Continuing Calibration Report

Date Acquired: 27 Aug 93 Operator ID: REGINA

7:51 am Misc. CALIBRATION CHECK 8/27/93 Data File: C:\I082793\2620J.D GCMS#9

Title: QUANTITATION FOR VOLATILES thod: VOLCLP1

st Calibration Update: Thu Aug 26 08:41:40 1993

P = SPCC Min RF = 0.05 M = Matrix Spike Compound C = CCC Max Dev = 25%I = ISTDS = Surrogate

cal20 = 1941J.Dcalloo = 1943J.D

cal50 = 1942J.D cal200 = 1945J.D cal150 = 1944J.D

PK#	Compound	AvgRRF	CCRRF	%Dev	
44 45 46 PM 47 C 48 49 50 51 P 52 P 53 S 54 55	Tetrachloroethene Dibromochloromethane Chlorobenzene Ethylbenzene Xylene(m,p) Xylene(o) Styrene Bromoform 1,1,2,2-Tetrachloroethane Bromofluorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,2-Dichlorobenzene	1.017 0.626 0.620 0.874 0.971 1.013	0.535 0.813 1.093 0.478 0.609 0.593 1.075 0.598 0.674 0.827 0.998 1.019	7.1 5.8 2.1 4.2 9.7 3.9 5.7 4.5 8.7 5.4 2.8 0.6 0.0	

(#) = Out of Range

2600J.D

VOLCLP1.M

Fri Aug 27 08:29:22 1993

FMGR

HERITAGE LABORATORIES, INC VOLATILES ANALYSIS-WATER METHOD BLANK ANALYSIS METHOD: SW846-8240

MASS SPEC FILE: >2621J ANALYSIS DATE/TIME: 8/27/93 8:45

TARGET COMPOUND LIST	RESULT	UNITS	DET. LIMIT
Acetone		uG/L	20
			50
Acrolein		uG/L	
Acrylonitrile	BDL	uG/L	70
Benzene	BDL	uG/L	5
Bromodichloromethane		uG/L	5 5
			5
Bromoform		uG/L	
Bromomethane	BDL	uG/L	10
Carbon disulfide		uG/L	5
		uG/L	5
Carbon tetrachloride		ud/L	5
Chlorobenzene	BDL	uG/L	5
Chloroethane	BDL	uG/L	10
Chloroform		uGʻ/L	5
			10
Chloromethane		uG/L	
Dibromochloromethane		uG/L	5
cis-1,3-Dichloropropene	BDL	uG/L	5
Dichlorodifluoromethane		uG/L	Š
			ž
1,1-Dichloroethane		uG/L	<u> </u>
1,2-Dichloroethane	BDL	uG/L	5
1,1-Dichloroethene		uG/L	5
		uG/L	Ĕ
1,2-Dichloropropane			2
Ethylbenzene		uG/L	555555555
Fluorotrichloromethane	BDL	uG/L	5
2-Hexanone		uG/L	10
			5
Methylene chloride	סטר	uG/L	
Methyl ethyl ketone		uG/L	10
4-Methyl-2-pentanone	BDL	uG/L	10
Styrene		uG/L	5
			Ĕ
1,1,2,2-Tetrachloroethane		uG/L	5 5
Tetrachloroethene	BDL	uG/L	_ 5
Tetrahydrofuran	BDL	uG/L	25
Toluene		uG/L	5
		uG/L	5
1,2-Dichloroethene (total)			5
trans-1,3-Dichloropropene		uG/L	5
1,1,1-Trichloroethane	BDL	uG/L	25 5 5 5 5 5
1,1,2-Trichloroethane		uG/L	5
			Ĕ
Trichloroethene		uG/L	
Vinyl acetate		uG/L	10
Vinyl chloride	BDL	uG/L	10
Xylenes (total)		uG/L	5
Aylenes (total)		uu/ L	o
0117700475 1 107			
SURROGATE LIST			spike conc
Dichloroethane-d4	96	% Rec	50
Toluene-d8	100	% Rec	50
Bromofluorobenzene		% Rec	50
		10 KEC	Ju
() = ESTIMATED CONCENTRATION			
On this instrument, packed of	column has	been re	placed by
capillary column with 8240 c	riteria		•

NOTE: capillary column with 8240 criteria. HAZARDOUS WASTE STORAGE FACILITY
PART B CLOSURE REPORT
TANK # 14
E.I. DUPONT DE MEMOURS & CO.
TOLEDO AP PLANT

PREPARED FOR:

E.I. DUPONT DE NEMOURS & CO.
TOLEDO AP PLANT
1930 TREMAINSVILLE ROAD
TOLEDO, OHIO 43613
419-478-1211

PREPARED BY:

HERITAGE REMEDIATION/ENGINEERING, INC. 5656 OPPORTUNITY DRIVE TOLEDO OH 43612-2922

Certified By:

Joseph D. Ritchey, P.E. Ohio Reg. No. E-53107 April 5, 1993

HAZARDOUS WASTE STORAGE FACILITY PART B CLOSURE REPORT FOR TANK # 14

TOLEDO AP PLANT 1930 TREMAINSVILLE ROAD TOLEDO, OH 43613

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. 1.0 INTRODUCTION

1.1 Closure Plan

The activities described herein were conducted in accordance with the approved Hazardous Waste Storage Facility Part B Closure Plan dated May 19, 1992. The referenced plan describes closure activities for all of the Toledo AP Plant areas including Tank #14.

1.2 FACILITY DESCRIPTION

The E. I. DuPont de Nemours & Co., Inc. facility manufactures automotive paints and resins. These processes or activities generate various wastes as described in Section 3.0 of the Hazardous Waste Storage Facility Part B Closure Plan dated May 19, 1992. The facility is located in Toledo, Lucas County, Ohio and is bordered by Harris Street and Jackman Rd. to the east, Tremainsville Rd. to the south, and railroad tracks to the west and north (See Figure 1). The Facility is approximately 17 acres in size.

1.3 TANK #14 AND SECONDARY CONTAINMENT DESCRIPTION

Tank #14 was cylindrical with a cone-shaped bottom and top. It was constructed in 1981 of carbon steel which is 3/8" thick on the bottom and sides to 8 feet and 3/16" on the sides above 8 feet and on the top. The sides are 16 feet tall, and the tank is 9.5 feet in diameter. The tank was operated at atmospheric pressure, and was vented through a conservation/flame arrestor vent.

The tank had four angle-iron legs, each 2.5 feet long. The legs were mounted on concrete piers 4 feet tall. The tank was located inside its own dike with concrete walls and floor, which had a capacity of 11,950 gallons. The dike has walls of 7.5 inch thick concrete and a floor of 4.5 inch concrete. The tank sits on four concrete piers, each of which is supported by a footer roughly 4 feet square and 9 inches thick. The bottom is sloped to a 4 foot by 4 foot sump (See Figure 2). The basin is recessed below the ground surface to a depth of four feet.

Prior to closure the tank was used to store dirty wash solvent from equipment cleaning processes in the manufacturing and resin areas. The tank was used as feed for solvent recovery.

. 2. CLOSURE ACTIVITIES

2.1 TANK #14 AND SECONDARY CONTAINMENT DECONTAMINATION

On September 16, 1992, HR/E participated in DuPont's contractor safety program. The following sections describe the decontamination procedures followed for the closure of the tank and containment area.

2.1.1 Tank #14 Decontamination

On September 16, 1992, following safety training, HR/E personnel set up scaffolding around the tank and the tank vent was opened so that the tank product level could be observed. The product level was such that a side manway was partially obstructed.

On September 17, 1992, HR/E and DuPont personnel pumped a solvent into the tank to loosen the tank product. This was accomplished by using a two inch suction hose and a M8 diaphragm pump. The equipment was set up to empty the liquid out of Tank #14 and to mix and break up the paint sludge within. After several pumpings the product level in Tank #14 dropped below the side manhole. This activity continued on September 23, 1992 when the side manway could be accessed. After accessing the tank (without entry) from the side manhole, a solvent stream was directed towards the paint sludge to dissolve it and pump it out. This activity was completed on September 30, 1992 with the tank being emptied of product. On October 1, 1992 a water pressure washer was used to rinse the inside of the tank.

All solvents, sludge, and rinseate were recovered in 500 gallon portable totes provided by DuPont. The tank was then air vented to insure the tank had a safe atmosphere with no LEL (lower explosive limit). A total of 1,070 gallons of product/sludge was removed from the tank. Approximately 880 gallons of solvent was used.

On October 2, 1992 piping and conduits were removed from the tank and the scaffolding taken down. On September 5, 1992 a 27-ton crane from Jeffers Company was utilized to move Tank #14 to the Drum Storage Pad. Four bolts which fastened the tank to the concrete base were removed after cables had been secured onto the tank. The crane picked the tank up and placed it on a low-boy truck trailer provided by the Morrow Bulk Company. After off-loading the tank to the northwest corner of the Drum Storage Pad, railroad ties were placed to stabilize the vessel for

further cleaning.

This cleaning started on October 6, 1992. Prior to entering Tank #14 for cleaning, DuPont facility safety personnel and the HR/R site safety officer monitored the tank and posted separate confined space entry permits. HR/E personnel then began water pressure washing Tank #14 with a pencil head tip to blast the remaining thin coated paint off the tank. A drum vacuum unit was mounted on the portable totes to recover all the rinseate. October 7, 1992, the tank was pressure washed and rinsed three times with plant tap water. Two and one half totes were used to contain the rinse water. Two valves were removed from the tank. On October 9, 1992, piping from the tank that had been removed was cut and drummed using a 4-wheel cutter. A tank entry permit was obtained on October 23, 1992 to allow a final rinse of the tank and sampling.

2.1.2 <u>Tank #14 Secondary Containment Pit</u> Decontamination

Decontamination of Tank #14's pit including its dike walls, floor and surrounding concrete area was started October 9, 1992. A visqueen canopy was constructed over the pit to contain the sandblast material and associated dust and paint residue. Sandblasting of the pit walls was performed on October 13 and 14, 1992. Sandblast solids were shoveled from the pit into 55-gallon drums. On October 19, 1992 HR/E repaired the visqueen canopy, damaged by high winds and rain. Water that had accumulated in the pit was removed by DuPont personnel. Sandblasting of the pit floor was performed October 21, 1992. Again sandblast solids were shoveled from the pit into 55-gallon drums. This was followed by vacuuming the area using a Tornado 250 cfm drum vacuum. disposal manifest for drummed material is presented in Appendix II. On October 22, 1992, after the pit was sandblasted and vacuumed cleaned, the visqueen canopy was removed and the entire pit area was water pressure blasted with a pencil head tip. Following water blasting, the area was triple rinsed using plant tap water. All rinseate was collected into portable totes. Manifests for disposal of rinseate are included in Appendix II.

· 2.2 DETAILS OF SAMPLING AND ANALYSIS

2.2.1 Sampling and Analysis of Tank #14

On October 7, 1992, following the third pressure washing, a sample was taken of the fourth rinse using a single 40 mil glass vial to fill two 40 mil glass vials and one 16 oz. glass jar as appropriate for analysis. A sample was also collected of the plant tap water at from the faucet. This sample was labeled "water blank". Sampling was performed by Mr. Steve Klemm of HR/E. Samples were labeled and placed in a cooler containing ice. The samples were shipped via UPS over night to Heritage Laboratories, Inc. in Indianapolis, IN. The tank risneate sample was sent for total lead (Pb) analysis using USEPA Method SW846-6010.

Both samples, the Tank #14 Rinseate and the Water Blank showed no detectable Pb at a limit of 0.050 mg/L. Appendix I includes a copy of the certificates of analysis and the completed Chain-of-Custody form.

On October 23, 1992, following an additional rinse of the tank, a rinseate sample was taken using a single 40 mil glass vial to fill two 40 mil glass vials and one 16 oz. glass jar as appropriate for analysis. Sampling was performed by Mr. Steve Klemm of HR/E. The sample was labeled and placed in a cooler containing ice. On October 26, 1992 the samples were shipped via UPS over night to Heritage Laboratories, Inc. in Indianapolis, IN. The sample was sent for analysis as summarized in Table 1.

Table 1. Summary of Analyses and Analytical Methods

ANALYSIS	метнор
Volatile Organic Compounds	SW846-8240
Semi-Volatile Organic Compounds	SW846-8270
Arsenic	SW846-7060
Barium	SW846-6010
Cadmium	SW846-7131
Chromium	SW846-6010
Lead	SW846-7421
Mercury	SW846-7470
Selenium	SW846-7740
Silver	SW846-6010

2.2.2 Sampling and Analysis of Secondary Containment

On October 22, 1992, following the third pressure washing, a sample was taken of the fourth rinse using a single 40 mil glass vial to fill two 40 mil glass vials and one 16 oz. glass jar as appropriate for analysis. The sample was collected at the containment area sump. A sample was also collected of the plant tap water at from the faucet. This sample was labeled "Faucet Near Pit". Sampling was performed by Mr. Steve Klemm of HR/E. Samples were labeled and placed in a cooler containing ice. The samples were shipped via UPS over night to Heritage Laboratories, Inc. in Indianapolis, IN on October 26, 1992. The samples were submitted for analyses summarized in Table 1.

2.3 SUMMARY OF ANALYTICAL RESULTS

The closure plan stipulated that the final rinseates must meet or exceed:

- Fifteen times the public drinking water MCL for hazardous waste constituents.
- If an MCL is not available for a particular contaminant, then fifteen times the MCLG.
- If a product of fifteen time the MCL or MCLG exceeds 1 mg/liter or if neither an MCL or MCLG is not available for a particular contaminant, 1 mg/liter shall be used as the clean standard.

The analytical results from tank and containment risneate are summarized in Table 2. Also included are the clean standards as determined from the approved closure plan and federal maximum contaminant levels (MCLs). In summary, both organic compounds and inorganic compounds were identified in the water from various sources, however, all detectable compounds were at levels below clean standard.

Therefore, Tank #14 is considered with in the EPA Clean Standard and may be disposed of or sold as scrap. At the time of preparation of this closure plan the tank had not been scraped or disposed.

Table 2 Analytical Data for RCRA Tank No. 14 Closure.

Constituent	MCL	MCLG		Tank	Pit	Sure.	Dlenk
Constituent	mcL mg/t	mcLG mg/l	Clean Standard	Rinscate	Pit Rînseate	Faucet Water	Blank mg/L
Rolling Commencer			mg/L	mg/L	mg/L	mg/L	
Lab. Sample No.				A265472	A265468	A265471	A265473
		Met	als				
Arsenic (As)	0.050	NA	0.750	< 0.005	< 0.005	<0.005	< 0.005
Barium (Ba)	2.000	NA	1.000	<0.010	< 0.010	<0.010	<0.010
Cadmium (Cd)	0.005	0.005	0.080	0.0024	< 0.001	<0.001	< 0.001
Chromium (Cr)	0.010	0.01	0.150	<0.010	< 0.010	< 0.010	<0.010
Lead (Pb)	0.015	NA	0.230	0.0055	< 0.005	< 0.005	< 0.005
Mercury (Hg)	0.002	0.002	0.030	< 0.0002	< 0.0002	< 0.0002	<0.0002
Selenium (Se)	0.050	0.05	0.750	< 0.005	< 0.005	< 0.005	<0.005
Silver (Ag)	0.050	NA	0.750	< 0.010	< 0.010	<0.010	<0.010
,		Volatile	Organica				
Benzene	0.005	NA	0.080	< 0.005	< 0.005	<0.005	< 0.005
O-dichlorobenzene	0.060	0.60	0.900	<0.010	< 0.010	<0.010	< 0.010
P-dichlorobenzene	0.075	NA	1.000	<0.010	< 0.010	<0.010	<0.010
Ethylbenzene	0.700	0.70	1.000	< 0.005	< 0.005	< 0.005	<0.005
Chlorobenzene	0.100	0.10	1.000	<0.005	< 0.005	< 0.005	< 0.005
Toluene	1.000	1.00	1.000	<0.005	< 0.005	<0.005	< 0.005
Total Xylenes	10.000	10.00	1.000	<0.005	<0.005	< 0.005	<0.005
Tetrachloroethene	0.005	0.00	0.080	< 0.005	< 0.005	< 0.005	<0.005
1,1,1-trichloroethane	0.200	NA	1.000	< 0.005	< 0.005	<0.005	< 0.005
1,2-dichloroethane	0.005	NA	0.080	< 0.005	< 0.005	<0.005	< 0.005
Trichloroethene	0.005	NA	0.080	< 0.005	< 0.005	< 0.005	< 0.005
1,1-dichloroethene	0.007	NA	0.110	< 0.005	< 0.005	< 0.005	< 0.005
c-1,2-dichloroethane	0.070	0.07	1.000	< 0.005	< 0.005	< 0.005	< 0.005
t-1,2-dichloroethane	0.100	0.10	1.000	< 0.005	< 0.005	< 0.005	< 0.005
Vinyl Chloride	0.002	NA	0.030	< 0.010	< 0.010	< 0.010	< 0.010
Carbon Tetrachloride	0.005	NA	0.080	< 0.005	< 0.005	< 0.005	< 0.005
Styrene	0.100	0.10	1.000	< 0.005	<0.005	< 0.005	< 0.005
1,2-dichloropropane	0.005	NA NA	0.080	<0.005	< 0.005	< 0.005	< 0.005
Total Trihalomethanes	0.100	NA	1.000	NM	NM	NM	NM
Acetone	NA	NA	1.000	0.052	< 0.020	<0.020	< 0.020
Bromodichloromethane	NA	NA	1.000	<0.005	< 0.005	0,005	< 0.005
Chloroform	NA	NA	1.000	<0.005	< 0.005	0.008	< 0.005
		Semi-Volati	le Organics				
Di(ethylbenzyl)phthalate	0.004	NA	0.060	NM	NM	NM	NM
Methylene Chloride	0.005	NA	0.080	< 0.005	_ < 0.005	< 0.005	<0.005
Hexachlorobenzene	0.001	NA	0.020	< 0.010	< 0.010	< 0.010	<0.010
1,2,4-trichlorobenzene	0.009	NA	0.140	<0.010	<0.010	<0.010	<0.010
1,1,2-trichloroethane	0.005	NA	0.080	< 0.005	< 0.005	< 0.005	< 0.005
Benzyl Alcohol	NA	NA	1.000	< 0.010	0.051	<0.010	<0.010
Bis(2-EH)Phthalate	NA	NA	1.000	<0.010	0.092	< 0.010	<0.010

NA - Not Applicable, NM - Not Measured

2.4 CERTIFICATION

MANAGEMENT APPROVAL

This Closure has been performed as herein described.

Signature X

al RITCHEY

Name and Title Mr. Samuel J. Bright - Toledo Plant Manager

CERTIFICATION

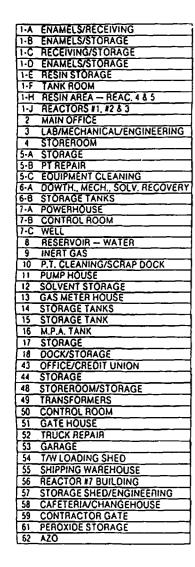
I hereby certify that I have examined the facility and being familiar with the provisions of 40 CFR, Part 264.115/OAC 3745-66-15, attest that this closure has been preformed in accordance with the approved closure plan.

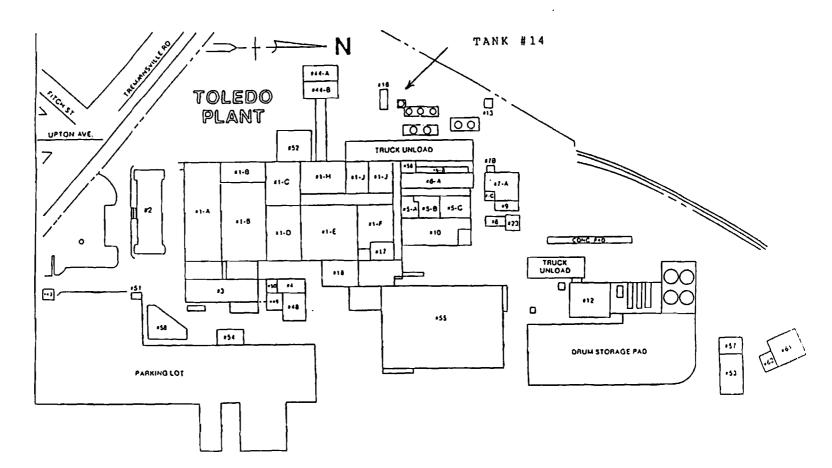
Joseph D. Ritchey, PE
Printed Name of Registered Professional Engineer

Bignature of Registered Professional Engineer

E-53107 Registration No. Ohio State ATTACHMENT 1

AREA MAP





ATTACHMENT 2

SKETCH OF TANK #14 AND DIKE

::

DIRTY WASH CONCRETE WALLS 14' THICK THICK SOLVEIT TANK SUMP 2 1 ' 15' MITTER 1'x 1' x4' TALL
PICRS (4) ROOTER (TYP.) (2'x 2' x 9" THICK FOOTERS (4) ELEV 20'

SCALE: 18" = 1 FOOT

EXISTING DIRTY WASH COLUENT TANK DIKE

APPENDIX I ANALYTICAL DATA REPORTS

CERTIFICATE OF ANALYSIS

Service Location	Received	Project	Lab ID
HERITAGE LABORATORIES, INC.	08- <u>0</u> CT-92		A263847
7901 W. MORRIS ST.	Complete	PO Number	
INDIANAPOLIS, IN 46231	12-0CT-92	29-1	725
(317)243-8305	Printed	Sampled	
	13-0CT-92	07-0CT-	92 15:40

Report To

Bill To

STEVE O. SMITH
HERITAGE REMEDIATION/ENGINEERING, INC.
5656 OPPORTUNITY DRIVE
TOLEDO, OH 43612

STEVE SMITH
HERITAGE REMEDIATION/ENGINEERING, INC.
5656 OPPURTUNITY DRIVE
TOLEDO, OH 43612

Sample Description

DESCRIPTION: TANK #14 RINSEATE

FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW84 Analyst: C. COFFEY Analysis Date: 09-0CT-92	16-3005	Test: P130.4	Seed Mark
Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL WEIGHT OR VOLUME	50	<u></u>	mL

LEAD ICP SW846-601			Test: W116.3.	
Analyst: M. JAO Prep: FAA OR ICP ACID DI	Analysis Date: 09-0CT-92 Inst GESTION OF AQUEOUS SAMPLES SW846-3005	P130.4.0	// 57	
	Parameter	Result	Det. Limit	Units
LEAD		BDL	0.050	mg/L

Sample Comments

SAMPLE PRESERVED AT HERITAGE UPON ARRIVAL.

BDL Below Detection Limit

Sample chain of custody number 15991.

IDEM Drinking Water Certification Number C-49-01

The state of

Quality Assurance Officer:

Last Page 1

OF ANALYSIS CERTIFICATE

Service Location	Received	Project	Lab ID
HERITAGE LABORATORIES, INC.	08-0CT-92		A263846
7901 W. MORRIS ST.	Complete	PO I	lumber
INDIANAPOLIS, IN 46231	12-0CT-92	29-1	725
(317)243-8305	Printed	Samp	oled
	13-0CT-92	07-0CT-	92 15:30

Report To

Bill To

STEVE O. SMITH HERITAGE REMEDIATION/ENGINEERING, INC. 5656 OPPORTUNITY DRIVE TOLEDO, OH 43612

STEVE SMITH HERITAGE REMEDIATION/ENGINEERING, INC. 5656 OPPURTUNITY DRIVE TOLEDO, OH 43612

Sample Description

DESCRIPTION: WATER BLANK

FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW84 Analyst: C. COFFEY Analysis Date: 09-001-92	16-3005	Test: P130,4.0
Parameter TNITIAL WEIGHT OR WOLLING	Result	Det. Limit Units
INITIAL WEIGHT OR VOLUME FINAL WEIGHT OR VOLUME	50 50	mL mL

LEAD ICP SW846-60	10			
Analyst: M. JAO	Analysis Date: 09-OCT-92	Instrument: ICP	Test: M116.3	.0
Prep: FAA OR ICP ACID	IGESTION OF AQUEOUS SAMPLES SW846	-3005 P130.4.0	· »	v''
	Parameter	Result	Det. Limit	Units
LEAD		BDL	0.050	mg/L

Sample Comments

SAMPLE PRESERVED AT HERITAGE UPON ARRIVAL.

BDL Below Detection Limit

Sample chain of custody number 15991.

IDEM Drinking Water Certification Number C-49-01

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EMS HERITAGE LABORATORIES, INC.

4132 POMPANO ROAD

CHARLOTTE, N.C. 28216

(704) 393-1853

15994

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST FORM

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CERTIFICATE OF ANALYSIS

Service Location HERITAGE LABORATORIES, INC.	Received 27-0CT-92	Project 1871	Lab 1D A265468
7901 W. MORRIS ST. INDIANAPOLIS, IN 46231	Complete 20-NOV-92		lumber
(317)243-8305	Printed 21-NOV-92	Samp	

Report To

Bill To

JEFF STEVENS HERITAGE REMEDIATION/ENGINEERING, INC 5656 OPPORTUNITY DRIVE TOLEDO, OH 43612

STEVE SMITH HERITAGE REMEDIATION/ENGINEERING, INC. 5656 OPPURTUNITY DRIVE TOLEDO, OH 43612

Sample Description

SAMPLE ID: 10221

DESCRIPTION: RINSEATE FROM PIT (TANK 14) PROJECT: DUPONT TOLEDO, OH

HRE JOB NO.: 62026 PROJECT NAME PROJECT NUMBER SAMPLE DESCRIPTION

FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW84 Analyst: C. COFFEY Analysis Date: 03-NOV-92	6-3005	Test: P130.4.0
Parameter	Result	Det. Limit Units
INITIAL WEIGHT OR VOLUME	50	mL
FINAL WEIGHT OR VOLUME	50	, mL

GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-302	3		Test: P130.6.	0
Parameter	R	esult	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50			mL
FINAL WEIGHT OR VOLUME	50			mL

MERCURY CVAA ACID DIGESTION OF AQU	IEOUS SAMPLES SW846-7470			
Analyst: R. BYERS Analysis Date:	06-NOV-92	Test: P131.6.0		
Parameter	Result	Det. Limit	Units	
INITIAL WEIGHT OR VOLUME	100		mL	
FINAL VOLUME	100	1	mL _	

ARSENIC GFAA SW846-7060 Analyst: My BAUER Analysis Date: 06-NO Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-	OV-92 Instrument; GFAA 3020 P130.6.0	Test: N103.2.0
Parameter ARSENIC	Result BDL	Det. Limit Units 0.0050 mg/L

BARIUM ICP SW846-6010 Analyst: A. HILSCHER Analysts Date: 03-NOV-92 In Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-300		Test: #104.3.0	
Parameter	Result	Det. Limit Un	its
BARIUM	BDL	0.010 mg/l	-

CADMIUN GFAA SW846-71	33		33.	Lab Jampie 1D	· AEGGTOG
Analyst: J. VANSKYOCK	Analysis Date: 11-NOV-92 AQUEOUS SAMPLES SU846-3020	Instrument: GFAA P130.6.0			
CADMIUM	Parameter	BDL	Result	Det. Limit 0.0010	Units mg/L
	10 Analysis Date: 03-NOV-92 FIOW OF AQUEOUS SAMPLES SUB46		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Test: M110.3	0
CHROMIUM	Parameter	BDL	Result	Det. Limit 	units mg/L
LEAD GFAA SW846-7421 Analyst: M. BAUER Prep: GFAA ACID DIGESTION O	Anstysis Date: 09-MOV-92 F AQUEOUS SAMPLES SUB46-3020	Instrument: GFAA P130.6.0		Test; M116;2,	0
LEAD	Parameter	BDL	Result	Det. Limit 0.0050	Units mg/L
	70 Analysis Date: 07-NOV-92 ESTION OF AQUEOUS SAMPLES SUE			Test: M120.1	0
MERCURY	Parameter	BDL	Result	Det. Limit 0.00020	Units mg/L
SELENIUM GFAA SW846-7 Analyst: W. WATNESS Prep: GFAA ACID DIGESTION O	740 Analysis Date: 06-NOV-92 F AQUEDIS SAMPLES SW846-3020	Instrument: GFAA P130.6.0	•	Test: #128:2:	0
SELENIUM	Parameter	BDL	Result	Det. Limit 0.0050	Units mg/L
	Analysis Date: 03-NOV-92 TION OF AQUEOUS SAMPLES SUBA	Instrument: ICP		Test: #130:3	Ö
SILVER	Parameter	BDL	Result	Det. Limit 0.010	Units mg/L
VOLATILE ORGANICS SWE	45-8240 Analysis Date: 03-NOV-92	Instrument: GC/MS	VOA	Jest: 0510.3.	04.33
ACETONE ACROLEIN ACRYLONITRILE BENZENE BROMODICHLOROMETHANE BROMOFORM BROMOMETHANE CARBON DISULFIDE CARBON TETRACHLORIDE CHLOROBENZENE CHLOROFORM CHLOROMETHANE DIBROMOCHLOROMETHANE CIS-1,3-DICHLOROPROPE DICHLORODIFLUOROMETHA 1,1-DICHLOROETHANE 1,2-DICHLOROETHANE		BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL	Result	Det. Limit 20 50 70 5 5 5 10 5 10 5 10 5 5 5 5 5 5 5 5 5 5	Units ug/L
1,1-DICHLOROETHENE		BDL	Page	2 (continued on	ug/L

Lab Sample ID: A265468

Parameter	Result	Det. Limit	Units
1,2-DICHLOROPROPANE	BDL	5	ug/L
ETHYLBENZENE	BOL	5	ug/L
, FLUOROTRICHLOROMETHANE	BDL	5	ug/L
2-HEXANONE	BDL	10	ug/L
METHYLENE CHLORIDE	BDL	5	ug/L
METHYL ETHYL KETONE	BDL	10	ug/L
4-METHYL-2-PENTANONE	BDL	10	ug/L
STYRENE	BDL:	10 5 5	ug/L
1,1,2,2-TETRACHLOROETHANE	BDL	5	ua/L
TETRACHLOROETHENE	BDL	5	ug/L
TETRAHYDROFURAN	BDL] 25	ug/L
TOLUENE	BDL	5	ug/L
1,2-DICHLOROETHENE (TOTAL)	BDL	5 5 5 5	ug/L
TRANS-1,3-DICHLOROPROPENE	BD	5	ug/L
1,1,1-TRICHLOROETHANE	BDL	5	ug/L
1,1,2-TRICHLOROETHANE	BOL	5 5	ug/L
TRICHLOROETHENE	BDL	5	ug/L
VINYL ACETATE	BDL	10	ug/L
VINYL CHLORIDE	BDL	10	ug/L
XYLENE (TOTAL)	BDL	5	ug/L
SURROGATE RECOVERY	<u> </u>		
DICHLOROETHANE-D4	101		% Rec
TOLUENE-D8	110		% Rec
BRÖMOFLUOROBENZENE	107	1 .	% Rec

GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION Analysis No. ROHADFOX Analysis Date: 28:007-92	00.000000 0000000000000000000000000000	Test: P233.4	.0
Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	1000		mL mL.

SENI-VOLATILE ORGANICS (BASE/NEUTRAL/ACID FRACTIONS) SW846-8270 Apalysis G. BARRETT Analysis Date: 30-007-92 Instrument: GC/MS SV0A Test: 0505.3.0 Prep: GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510 P233.4.0				
Parameter	Result	Det. Limit	Units	
ACENAPHTHENE	BDL	10	ug/L	
ACENAPHTHYLENE	BDL	10	ug/L	
ANTHRACENE	BDL	10	ug/L	
BENZ (A) ANTHRACENE	BOL	10	ug/L	
BENZO(A) PYRENE	BDL	10	ug/L _	
BENZO(B)FLUORANTHENE	BDL	10	ug/L	
BENZO(G,H,I)PERYLENE	BDL	10	ug/L	
BENZO(K) FLUORANTHENE	BDL	10	ug/L	
BENZYL ALCOHOL	51	10	ug/L	
BENZYLBUTYLPHTHALATE	BDL	10	ug/L	
BIS(2-CHLOROETHOXY)METHANE	BDL	10	ug/L	
BIS(2-CHLOROETHYL)ETHER	BOL	10	ug/L	
BIS(2-CHLOROISOPROPYL)ETHER	BOL	10	ug/L	
BIS(2-ETHYLHEXYL)PHTHALATE	92	10	ug/L	
4-BROMOPHENYLPHENYLETHER	BDL	10	ug/L	
CARBAZOLE	BDL	10	ug/L	
4-CHLOROANILINE	BDL	10	ug/L	
2-CHLORONAPHTHALENE	BÖL	10	ug/L	
4-CHLOROPHENYLPHENYLETHER	BDL	10	ug/L	
CHRYSENE	BDL	10	ug/L	

Page 3 (continued on next page)

HERITAGE LABORATURIES, INC.	E	n samble in	. A203400
Parameter	Result	Det. Limit	Units
DIBENZ(A,H)ANTHRACENE	BDL	10	ug/L
DIBENZOFURÂN	BDL	10	ug/L
1,2-DICHLOROBENZENE	BDL	10	ug/L
1,3-DICHLOROBENZENE	BOL	10	ug/L
1,4-DICHLOROBENZENE	BOL	10	ug/L
13,3'-DICHLOROBENZIDINE	BDL	20	
DIETHYLPHTHALATE	BDL	10	ug/L
DIMETHYLPHTHALATE	BDL	io	ug/L
, DI-N-BUTYLPHTHALATE	BDL	10	ug/L
DINITROBENZENES	BDL	50	ug/L
2,4-DINITROTOLUENE	BDL	10	ug/L
2,6-DINITROTOLUENE	BDL	10	ug/L ug/L
DI-N-OCTYLPHTHALATE	BDL	10	
FLUORANTHENE	BDL		ug/L
		10	ug/L
FLUORENE	BDL	10	ug/L
HEXACHLOROBENZENE	BDL	10	ug/L
HEXACHLOROBUTADIENE	BDL	10	ug/L
HEXACHLOROCYCLOPENTADIENE	BDL	10	ug/L
HEXACHLOROETHANE	BDL	10	ug/L
INDENO(1,2,3-CD)PYRENE	BOL		ug/L
ISOPHORONE	BDL	10	ug/L
2-METHYLNAPHTHALENE	BOL	10	ug/L
NAPHTHALENE	BDL	10	ug/L
2-NITROANILINE	BDL	50	ug/L
3-NITROANILINE	וחם ו	50	ug/L
4-NITROANILLINE.	BDL		ug/L
NITROBENZENE	I BUL	10	ug/L
N-NITROSO-DIPHENYLAMINE		10	ug/L
N-NITROSO-DI-N-PROPYLAMINE	BDL	10	ug/L
PHENANTHRENE	BDL	10	ug/L
2-PICOLINE	BDL	50	ug/L
PYRENE	BDL	10	ug/L
PYRIDINE	BDL	50	ug/L
TETRACHLOROBENZENES	BDL	10	
TOLUENEDIAMINE	BDL	50	ug/L
1,2,4-TRICHLOROBENZENE	BDL		ug/L
		10	ug/L
BENZOIC ACID	BDL	50	ug/L
4-CHLORO-3-METHYLPHENOL	BDL	10	ug/L
2-CHLOROPHENOL	BDL	10	ug/L
2,4-DICHLOROPHENOL	BDL	10	ug/L
2,4-DIMETHYLPHENOL	BDL	10	ug/L
4,6-DINITRO#2-METHYUPHENOL	BDL	50	ug/L
2,4-DINITROPHENOL	BDL	50	ug/L
2-METHYLPHENOL	BDL	10	ug/L
4-METHYLPHENOL	BDL	10	ug/L
2-NITROPHENOL	BDL	10	ug/L
4-NITROPHENOL	BDL	50	ug/L
PENTACHLOROPHENOL	BDL	50	ug/L
PHENOL	BDL	10	ug/L
TETRACHLOROPHENOL	BDL	10	ug/L
2,4,5-TRICHLOROPHENOL	BDL	50	ug/L
2,4,6-TRICHLOROPHENOL	BDL	10	ug/L
SURROGATE RECOVERY			
1			
2-FLUOROPHENOL	26		% Rec
PHENOL-D5	16		% Rec

Page 4 (continued on next page)

HERITAGE LABORATORIES, INC.

Lab Sample ID: A265468

Pa	rameter	Result	Det. Limit	Units
NITROBENZENE-D5		78		% Rec
2-FLUOROBIPHENYL	· . · · · ·	89		% Rec
2,4,6-TRIBROMOPHENOL		25		% Rec
TERPHENYL-D14		89		% Rec

Sample Comments

BDL Below Detection Limit

Sample chain of custody number 15990.

IDEM Drinking Water Certification Number C-49-01 This Certificate shall not be reproduced, except in full, without the written approval of the lab.

Additional copies of this report sent to: JOE RITCHIE, HERITAGE REMEDIATION/ENGINEERING, INC. 5656 OPPORTUNITY DRIVE, TOLEDO, OH 43612

Quality Assurance Officer:

CERTIFICATE OF ANALYSIS

Service Location	Received	Project	Lab ID
HERITAGE L'ABORATORIES, INC. 7901 W. MORRIS ST. INDIANAPOLIS, IN 46231 (317)243-8305	27-0CT-92	1871	A265471
	Complete	PO P	lumber
	12-NOV-92	29-1	.463
	Printed	Samp	oled
	13-NOV-92	22-0CT-	92 15:50

Report To

Bill To

JEFF STEVENS
HERITAGE REMEDIATION/ENGINEERING, INC
5656 OPPORTUNITY DRIVE
TOLEDO, OH 43612

STEVE SMITH
HERITAGE REMEDIATION/ENGINEERING, INC.
5656 OPPURTUNITY DRIVE
TOLEDO, OH 43612

Sample Description

SAMPLE ID: 10222

DESCRIPTION: FAUCET NEAR PIT PROJECT: DUPONT TOLEDO, OH

HRE JOB NO.: 62026 PROJECT NAME PROJECT NUMBER SAMPLE DESCRIPTION

FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 Analysis C. COFFEY Analysis Date: 04-NOV-92 Test: P130.4.0				
Parameter	Result	Det. Limit	Units	
INITIAL WEIGHT OR VOLUME	50		mL	
FINAL WEIGHT OR VOLUME	50		mL	

GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 Analyst: S. SNYDER Analysis Date: 04-NOV-92 Test: P130.6.0					
Parameter	Result	Det. Limit	Units		
INITIAL WEIGHT OR VOLUME	50		mL		
FINAL WEIGHT OR VOLUME	50	1	mL		

MERCURY CVAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-7470 Analyst: R. BYERS Analysis Date: 06-NOV-92 Test: P131.6.0			
Parameter INITIAL WEIGHT OR VOLUME FINAL VOLUME	Result 100 100	Det. Limit	Units mL mL

ARSENIC GFAA SW846-7060 Analyst: M. BAUER Analysis Date: 06-NOV-92 Inst Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6		Test: M103.2.0)
Parameter ARSENIC	Result	Det. Limit	Units
	BDL	0.0050	mq/L

BARIUM ICP SW846-6010 Analysis N. JAO Analysis Date: 05-NOV-92 Instrument: ICP Test: M104.3.0 Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0					
BARIUM	Parameter	Result BDL	Det. Limit 0.010	Units mg/L	

CIS-1,3-DICHLOROPROPENE DICHLORODIFLUOROMETHANE 1,1-DICHLOROETHANE 1,2-DICHLOROETHANE 1,1-DICHLOROETHANE

HERITAGE LABORATORIES, INC.		Lab Sample ID: A26547	
CADMIUM GFAA SW846-7131 Analyst: J. VANSKYOCK Analysts Dete: 11-NOV Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3	÷92 Instrument: GFAA 020 P130.6.0	Test: M108.2.0	
Parameter CADMIUM	Result BDL	Det. Limit Units 0.0010 mg/L	
CHROMIUM ICP SW846-6010 Analyst: M. JAO Analyst: Date: 05-NOV Prep: FAA:OR ICP ACID DIGESTION OF AQUEOUS SAMPLES S		Test: M11023.0	
Parameter CHROMIUM	Result BDL	Det. Limit Units 0.010 mg/L	
LEAD GFAA SW846-7421 Analyst: W. BAUER Analysts Date: 09-MOV Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3	-92 Instrument: GFAA 020-9130:6.0	Test: W116.2.0	
Parameter LEAD	Result BDL	Det. Limit Units 0.0050 mg/L	
MERCURY CVAA SW846-7470 Analysts K. HACK Analysis Date: 07-NOV Prep: MERCURY CVAA ACID DIGESIION OF AQUEOUS SAMPLES		Test: M120.1.0	
Parameter MERCURY	Result BDL	Det. Limit Units 0.00020 mg/L	
SELENIUM GFAA SW846-7740 Analyst: W. WATNESS Analyste Date: 06-NOV Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3	-92 Instrument: GFAA	Test: M128.2.0	
Parameter SELENIUM	Result BDL	Det. Limit Units 0.0050 mg/L	
SILVER ICP SW846-6010 Analyst: M. JAO Analysts Date: 05-NOV Prep: FAA OR 1CP ACID DIGESTION OF ACCEDUS SAMPLES S		Test: M130.3.0	
Parameter SILVER	Result BDL	Det. Limit Units 0.010 mg/L	
VOLATILE ORGANICS SW846-8240 Analysts Date: 03-80V	-92 Instrument: GC/MS VOA	۲est: 0510.3.0	
Analyst: T. WIEGAND Analysis Date: 03-NOV Parameter ACETONE	-92 Instrument: GC/MS VOA Result BDL	Test: 0510.3.0 Det. Limit Units 20 ug/L	
ACROLEIN ACRYLONITRILE BENZENE	BDL BDL BDL	50 ug/L 70 ug/L 5 ug/L	
BROMODICHLOROMETHANE BROMOFORM BROMOMETHANE	EST 5 BDL BDL	5 ug/L 5 ug/L	
CARBON DISULFIDE CARBON TETRACHLORIDE	BDL BDL	5 ug/L 5 ug/L	
CHLOROBENZENE CHLOROETHANE CHLOROFORM	BDL BDL 8	5 ug/L 10 ug/L 5 ug/L	
CHLOROMETHANE DIBROMOCHLOROMETHANE CIS-1 3-DICHLOROPROPENE	BDL BDL BDI	10 ug/L 5 ug/L 5 ug/L	

BDL

BDL BDL

BDL BDL

5 5

ug/L ug/L

ug/L

ug/L ug/L

		<u>-</u>	
Parameter	Result	Det. Limit	Units
1,2-DICHLOROPROPANE	BDL	5	ug/L
ETHYLBENZENE	BDL	5	ug/L
, FLUOROTRICHLOROMETHANE	BDL	5	ug/L
1 2-HEXANONE	BDL	10	ug/L
METHYLENE CHLORIDE	BDL	5	ug/L
METHYL ETHYL KETONE	BDL	10	ug/L
4-METHYL-2-PENTANONE	BDL	10	ug/L
STYRENE	BDL	5	ug/L
1,1,2,2-TETRACHLOROETHANE	BDL	5	ug/L
TETRACHLOROETHENE	BDL.	5 5	ug/L
TETRAHYDROFURAN	BDL		ug/L
TOLUENE	BDL	25 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	ug/L
1,2-DICHLOROETHENE (TOTAL)	BDL	5	ug/L
TRANS-1,3-DICHLOROPROPENE	BDL	5	ug/L
1,1,1-TRICHLOROETHANE	BDL	5	ug/L
1,1,2-TRICHLORÖETHANE	BDL	5	ug/L
TRICHLOROETHENE	BDL	5	ug/L
VINYL ACETATE	BDL	10	ug/L
VINYL CHLORIDE	BDL.	10	ug/L
XYLENE (TOTAL)	BDL	5	ug/L
SURROGATE RECOVERY		İ	
DICHLOROETHANE-D4	103		% Rec
TOLUENE-D8	110		% Rec
BROMOFLUOROBENZENE	108		% Rec

GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510 Analyst: N. ROHADFOX Analysis Date: 28-OCT-92 Test: P233.4.0					
INITIAL WEIGHT OR VOLUME FINAL VOLUME	Result 1000 1.0	Det. Limit	Units ML ML		

SEMI-VOLATILE ORGANICS (BASE/NEUTRAL/ACID FRACTIONS) SW846-8270 Analyst: G. BARRETT Analysis Date: 02-NOV-92 Instrument: GC/MS SVQA Test: 0505.3.0 Prep: GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510 P233.4.0				
Parameter	Result	Det. Limit	Units	
ACENAPHTHENE	BDL	10	ug/L	
ACENAPHTHYLENE	BDL	10	ug/L	
ANTHRACENE	BDL	10	ug/L	
BENZ(A)ANTHRACENE	BDL	10	ug/L	
BENZÒ(Á) PYRENE ·	BDL	10	ug/L _	
BENZO(B)FLUORANTHENE	BDL	10	ug/L	
BENZO(G,H,I)PERYLENE	BDL	10	ug/L	
BENZO(K) FLUÓRANTHENE	BDL	10	ug/L	
BENZYĽ ÁLCOHOL	BDL	10	ug/L	
BENZYLBUTYLPHTHALATE	BDL	10	ug/L	
BIS(2-CHLOROETHOXY)METHANE	BDL	10	ug/L	
BIS(2-CHLOROETHYL)ÉTHER	BDL	10	ug/L	
BIS(2-CHLOROISOPRÓPYL)ETHER	BDL	10	ug/L	
BIS(2-ETHYLHEXYL)PHTHALATE	BDL	10	ug/L	
4-BROMOPHENYLPHENYLETHER	BDL	10	ug/L	
CARBAZOLE	BDL	10	ug/L	
4-CHLOROANILINE	BDL	10	ug/L	
2-CHLORONAPHTHALENE	BDL	10	ug/L	
4-CHLOROPHENYLPHENYLETHER	BDL	10	ug/L	
CHRYSENE	BDL	10	ug/L	

HERITAGE LABORATORIES, INC.		D Jampie 10	· NEUJ4/1
Parameter	Result	Det. Limit	Units
1 DIBENZ(A, H) ANTHRACENE	BDL	10	ug/L
DIBENZOFURAN	BDL	10	ug/L
1,2-DICHLOROBENZENE	BDL	10	ug/L
1,3-DICHLOROBENZENE	BDL	10	ug/L
1,4-DICHLOROBENZENE	BDL	10	ug/L
3,3'-DICHLOROBENZIDINE	BDL	20	ug/L
DÍETHYLPHTHALATE	BDL	10	ug/L
DIMETHYLPHTHALATE	BDL	10	ug/L
DI-N-BUTYLPHTHALATE	BDL	10	ug/L
DINITROBENZENES	BDL	50	ug/L
2,4-DINITROTOLUENE	BDL	10	ug/L
2,6-DINITROTOLUENE	BDL	iŏ	ug/L
DI-N-OCTYLPHTHALATE	BOL	10	ug/L ug/L
	BDL	10	
FLUORANTHENE			ug/L
FLUORENE	BDL	10	ug/L
HEXACHLOROBENZENE	BDL	10	ug/L
HEXACHLOROBUTADIENE	BDL	10	ug/L
HEXACHLOROCYCLOPENTADIENE	BDL	10	ug/L
HEXACHLOROETHANE	BDL	10	ug/L
INDENO(1,2,3-CD)PYRENE	BDL	10	ug/L
ISOPHORONE	BDL	10	ug/L
2-METHYUNAPHTHALENE	BDL	10	ug/L
NAPHTHALENE	BDL	10	ug/L
2-NITROANILINE	BDL	50	ug/L
3-NITROANILÎNE	BDL	50	ug/L
4-NITROANILINE	BDL	50	ug/L
NITROBENZENE	BDL	10	ug/L
N-NITROSO-DIPHENYLAMINE	BDL	10	ug/L
N-NITROSO-DI-N-PROPYLAMINE	BDL	l io	ug/L
PHENANTHRENE	BDL	l iŏ l	ug/L
2-PICOLINE	BDL	50	
PYRENE	BDL	10	ug/L
PYRIDINE			ug/L
	BDL	50	ug/L
TETRACHLOROBENZENES	BDL	10	ug/L
TOLUENEDIAMINE	BDL	50	ug/L
1,2,4-TRICHLOROBENZENE	BDL	10	ug/L
BENZOIC ACID	BDL	50	ug/L
4-CHLORO-3-METHYLPHENOL	BDL	10	
2-CHLOROPHENOL	BDL	10	ug/L
2,4-DICHLOROPHENOL	BDL	10	ug/L
2,4-DIMETHYLPHENOL	BDL	10	ug/L
4,6-DINITRO-2-METHYLPHENOL	BDL	50	ug/L
2,4-DINITROPHENOL	BDL	50	ug/L
2-METHYL PHENOL	BDL	10	
4-METHYLPHENOL	BDL	10	ug/L
2-NITROPHENOL	BDL	10	
4-NITROPHENOL	BDL	50	ug/L
PENTACHLOROPHENOL	BDL	50	ug/L
PHENOL	BDL	10	ug/L
TETRACHLOROPHENOL	BDL	10	ug/L ug/L
2,4,5-TRICHLOROPHENOL	BDL	50	
2,4,5-TRICHLOROPHENOL	BDL	10	ug/L ug/L
SURROGATE RECOVERY			- 49/ C

2-FLUOROPHENOL	49		% Rec
PHENOL-D5	33 Page 4 /gg	ntinued on	% Rec

Page 4 (continued on next page)

HERITAGE LABORATORIES, INC.

Lab Sample ID: A265471

Parameter	Result	Det. Limit	Units
NITROBENZENE-D5	105		% Rec
2-FLUOROBIPHENYL	89		% Rec
2,4,6-TRIBROMOPHENOL	70		% Rec
TERPHENYL-D14	98		% Rec

Sample Comments

BDL Below Detection Limit

EST Estimated Value

Sample chain of custody number 15990.

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Additional copies of this report sent to: JOE RITCHIE, HERITAGE REMEDIATION/ENGINEERING, INC. 5656 OPPORTUNITY DRIVE, TOLEDO, OH 43612

Between

CERTIFICATE OF ANALYSIS

HERT	Service Location TAGE LABORATORIES, INC.	Received 27-0CT-92	Project 1871	Lab 10 A265472
7901 W. MORRIS ST. I INDIANAPOLIS, IN 46231	Complete 12-NOV-92		Number 1463	
(317)243-830\$	Printed 13-NOV-92	Sam	92 10:15

Report To

Bill To

JEFF STEVENS
HERITAGE REMEDIATION/ENGINEERING, INC
5656 OPPORTUNITY DRIVE
TOLEDO, OH 43612

STEVE SMITH
HERITAGE REMEDIATION/ENGINEERING, INC.
5656 OPPURTUNITY DRIVE
TOLEDO, OH 43612

Sample Description

SAMPLE ID: 10233

DESCRIPTION: TANK 14 RINSEATE PROJECT: DUPONT TOLEDO, OH

HRE JOB NO.: 62026 PROJECT NAME PROJECT NUMBER SAMPLE DESCRIPTION

FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 Analyst: C. COFFEY Analysis Date: 04-NOV-92 Test: P130.4.0				
Parameter	Result	Det. Limit	Units	
INITIAL WEIGHT OR VOLUME	50		mL	
FINAL WEIGHT OR VOLUME	50		mL	

GFAA ACID DIGESTION OF	AQUEOUS SAMPLES SW846-3020 Analysis Date: 04-NOV-92		Test: P130	5.0
Pa	rameter	Result	Det. Limit	Units
'INITIAL WEIGHT OR VOLUME		50		mL
FINAL WEIGHT OR VOLUME		50		mL

MERCURY CVAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-7470 Analyst: R. BYERS Analysis Date: 06-NOV-92 Test: P131.6.0				
Parameter	Result	Det. Limit	Units	
INITIAL WEIGHT OR VOLUME	100		mL	
FINAL VOLUME	100		mL	

ARSENIC GFAA SW846-7060 Analyst: M. BAUER Analysis Date: 06 NOV:92 Instrument: GFAA Test: M103.2.0 Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0					
Parameter	Result	Det. Limit	Units		
	BDL	0.0050	mg/L		

BARIUM ICP SW846-6010 Analyst: M. JAO Analysis Date: 05-NOV-92 Instrument: ICP Test: M104.3.0 Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0					
	Parameter		Result	Det. Limit	Units
BARIUM		BDL		0.010	mg/L

HERITAGE LABORATORIES, INC.		Lab Sample ID: A2654
CADNIUM GFAA SW846-7131 Analyst: J. VANSKYOCK Analysis Date: 11:NOV-92 Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020	P. Instrument: GFAA D.P130.6.0	Test: M108.2.0
Parameter CADMIUM 1:2 DILUTION	Result 0.0024	Det. Limit Units 0.0020 mg/L
CHROMIUM ICP SW846-6010 Analysis Date: 05-MOV-92 Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW8		Test; M110.3.0
Parameter CHROMIUM	Result BDL	Det. Limit Units 0.010 mg/L
LEAD GFAA SW846-7421 Analyst: M. BAUER Analysis Date: 09-NOV-92 Prep: GFAA ACID DIGESTION OF AGUEOUS SAMPLES SW846-302	? Instrument: GFAA D P130:6:0	Test: M116.2.0
Parameter LEAD	Result 0.0055	Det. Limit Units 0.0050 mg/L
MERCURY CVAA SW846-7470 Analysts K. NACK Analysts Date: 07-NOV-97 Prep: MERCURY CVAA ACID DIGESTION OF AQUEOUS SAMPLES S	2 Instrument: CVAA W846-7470 P131.6.0	Test: M120.1.0
Parameter MERCURY	Result BDL	Det, Limit Units 0.00020 mg/L
SELENIUN GFAA SW846-7740 Analyst: W. Wathess Analysis Date: 06-NOV-97 Prep: GFAA ACID DIGESTION OF ADDEOUS SAMPLES SW846-302	2 Instrument: GFAA 0:P:130:6,0	Test: M128.2.0
SELENIUM Parameter	Result BDL	Det. Limit Units 0.0050 mg/L
SILVER ICP SW846-6010 Analysis Date: 05-NOV-97 Prep: FAA OR 1CP ACID DIGESTION OF AQUEOUS SAMPLES SW8	2 Instrument: ICP 46-3005 P130.4.0	Test: M130.3.0
Parameter SILVER	Result BDL	Det. Limit Units 0.010 mg/L
VOLATILE ORGANICS SW846-8240		

Analyst: T. WIEGAND Analysis Date:	03-NOV-92 Instrument: GC/MS VOA	Test: 0510.3	.0
Parameter	Result	Det. Limit	Units
ACETONE	52	20	ug/L
ACROLEIN	BDL	50	ug/L _
ACRYLONITRILE	BDL	70	ug/L
BENZENE	BDL	5	ug/L
BROMODICHLOROMETHANE	BDL	5	ug/L
BROMOFORM	BDL	5	ug/L
BROMOMETHANE	BDL	[10	ug/L
CARBON DISULFIDE	BDL	5	ug/L
CARBON TETRACHLORIDE	BDL	5	ug/L
CHLOROBENZENE	BDL	5	ug/L
CHLOROETHANE	BDL	10	ug/L
CHLOROFORM	BDL	5	ug/L
CHLOROMETHANE	BDL	10	ug/L
DIBROMOCHLOROMETHANE	BDL	5	ug/L
CIS-1,3-DICHLOROPROPENE	BDL	5	ug/L
DICHLORODIFLUOROMETHANE	BDL	5	ug/L
1.1-DICHLOROETHANE	BDL	5	ug/L

Parameter	Result	Det. Limit	Units							
1,2-DICHLOROETHANE	BDL	5	ug/L							
1,1-DTCHLORDETHENE	BDL	5	ug/L							
, 1,2-DICHLOROPROPANE	BDL	5 5	ug/L							
' ETHYLBENZENE	BDL	5	ug/L							
FLUOROTRICHLOROMETHANE	BDL	5	ug/L							
2-HEXANONE	BDL	10	ug/L							
METHYLENE CHLORIDE	BDL	5	ug/L							
METHYL ETHYL KETONE	BDL	10	ug/L							
, 4-METHYL-2-PENTANONE	BDL	10	ug/L							
STYRENE	BDL.	5 5 5	ug/L							
1,1,2,2-TETRACHLOROETHANE	BDL	5	ug/L							
TETRACHLOROETHENE	BDL	5	ug/L							
TETRAHYDROFURAN	BDL	25	ug/L							
TOLUENE	BDL	5	ug/L							
1,2-DICHLOROETHENE (TOTAL)	BDL	5 5 5 5 5 5 5	ug/L							
TRANS-1,3-DICHLOROPROPENE	BDL	5	ug/L							
1,1,1-TRICHLOROETHANE	BDL	5	ug/L							
1,1,2-TRICHLOROETHANE	BDL	5	ug/L							
TRICHLOROETHENE	BDL		ug/L							
VINYL ACETATE	BDL	10	ug/L							
'VINYL CHLORIDE	BDL	10	ug/L							
XYLENE (TOTAL)	BDL	5	ug/L							
1										
SURROGATE RECOVERY										
, DICHLOROETHANE-D4	106		% Rec							
TOLUENE-D8	110		% Rec							
BROMOFLUOROBENZENE	106		% Rec							
SAMPLE PH = 7			,,,,,,,,							

GC/MS SEPARATORY FUNNEL LIQUID EXTRACTION SW846-3510									
Analyst: N. ROHADFOX Analysis Date: 28-OCT-92	propagation of the 196 Spring + 1971 - 3 - 1971 - 1	Test: P233.4.0							
Parameter	Result	Det. Limit	Units						
INITIAL WEIGHT OR VOLUME	1000	}	mL						
FINAL VOLUME	1.0		mL						

SEMI-VOLATILE ORGANICS (BASE/NEUTRAL/ACID FRACTIONS) SW846-8270 Analyst: G. BARRETT Analysis Date: 02-NOV-92 Instrument: GC/MS SVOA Test: 0505.3.0 Prep: GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510 P233.4.0								
Parameter	Result	Det. Limit	Units					
ACENAPHTHENE	BDL	10	ug/L _					
ACENAPHTHYLENE	BDL	10	ug/L					
ANTHRACENE	BDL	10	ug/L					
BENZ(A)ANTHRACENE	BDL	10	ug/L					
BENZÓ(Á) PYRENE	BDL	10	ug/L					
BENZO(B) FLUORANTHENE	BDL	10	ug/L					
BENZO(G,H,I)PERYLENE	∖ BDL	10	ug/L					
BENZO(K) FLUORANTHENE	BDL	10	ug/L					
BENZYL ÁLCOHOL	BDL	10	ug/L					
BENZYLBUTYLPHTHALATE	BDL	10	ug/L					
BIS(2-CHLOROETHOXY)METHANE	BDL	10	ug/L					
BIS(2-CHLOROETHYL)ÉTHER	BDL	10	ug/L					
BIS(2-CHLOROISOPROPYL)ETHER	BDL	10	ug/L					
BIS(2-ETHYLHEXYL)PHTHÁLATE	BDL	10	ug/L					
4-BROMOPHENYLPHENYLETHER	BDL	10	ug/L					
CARBAZOŁE	BOL	10	ug/L					
	Page 3	(continued on						

Parameter			Result	Det. Limit	Units
1 4-CHLOROANILINE		BDL		10	ug/L
2-CHLORONAPHTHALENE		BDL		10	ug/L
, 4-CHLOROPHENYLPHENYLETHER		BDL		10	ug/L
CHRYSENE	ĺ	BDL		10	ug/L
DIBENZ(A, H) ANTHRACENE	į	BDL		10	ug/L
DIBENZOFURÁN	•	BDL		10	ug/L
1,2-DICHLOROBENZENE		BDL		10	ug/L
1,3-DICHLÖROBENZENE		BDL		io	ug/L
1,4-DICHLOROBENZENE	•	BDL		io	ug/L
		BDL		20	
3,3'-DICHLOROBENZIDINE DIETHYLPHTHALATE		BDL	•		ug/L
				10	ug/L
DIMETHYLPHTHALATE		BDL		10	ug/L
DI-N-BUTYLPHTHALATE		BDL		10	ug/L
DINITROBENZENES	1	BDL		50	ug/L
2,4-DINITROTOLUENE		BDL		10	ug/L
2,6-DINITROTOLUENE		BDL		10	ug/L
DI-N-OCTYLPHTHALATE		BDL		10	ug/L
FLUORANTHENE		BDL		10	ug/L
FLUORENE		BDL		10	ug/L
HEXACHLOROBENZENE		BDL		10	ug/L
HEXACHLOROBUTADIENE		BDL		10	ug/L
HEXACHLOROCYCLOPENTADIENE		BDL		10	ug/L
HEXACHLOROETHANE		BDL		10	ug/L
INDENO(1,2,3-CD) PYRENE	<u> </u>	BDL		10	ug/L
ISOPHORONE		BDL	·	10	
					ug/L
2-METHYLNAPHTHALENE		BDL		10	ug/L
NAPHTHALENE	a. an an anciene a l	BDL		10	ug/L
2-NITROANILINE	* 4- 7,87%. Y	BDL		50	ug/L
3-NITROANILINE		BDL		50	ug/L
4-NITROANILINE	1 TAWil	BDL		50	ug/L
NITROBENZENE		BDL		10	ug/L
N-NITROSO-DIPHENYLAMINE		BDL		10	ug/L
N-NITROSO-DI-N-PROPYLAMINE		BDL		10	ug/L
PHENANTHRENE		BDL		10	ug/L
2-PICOLINE		BDL	•	50	ug/L
PYRENE		BDL		10	ug/L
PYRIDINE		BDL		50	ug/L
TETRACHLOROBENZENES		BDL		10	ug/L
TOLUENEDIAMINE		BDL		50	ug/L
1,2,4-TRICHLOROBENZENE		BDL		10	ug/L
BENZOIC ACID		BDL		50	
		BDL			ug/L
4-CHLORO-3-METHYLPHENOL				10	ug/L
2-CHLOROPHENOL		BDL		10	ug/L
2,4-DICHLOROPHENOL		BDL		10	ug/L
2,4-DIMETHYLPHENOL		BDL		10	ug/L
4,6-DINITRO-2-METHYLPHENOL		BDL		50	ug/L
2,4-DINITROPHENOL	İ	BDL		50	ug/L
2-METHYLPHENOL		BDL		10	ug/L
4-METHYLPHENOL		BDL		10	ug/L
2-NITROPHENOL		BDL		10	ug/L
4-NITROPHENOL		BDL		50	ug/L
PENTACHLOROPHENOL	1	BDL		50	ug/L
PHENOL	1	BDL		10	ug/L
TETRACHLOROPHENOL		BDL		10	ug/L ug/L
2,4,5-TRICHLOROPHENOL		BDL		50	ug/L ug/L
		BDL		10	
2,4,6-TRICHLOROPHENOL		DUL		10	ug/L
•		L			<u></u> _

HERITAGE LABORATORIES, INC.

Lab Sample ID: A265472

SURROGATE RECOVERY	Result	Det. Limit	Units
2-FLUOROPHENOL PHENOL-D5 NITROBENZENE-D5 2-FLUOROBIPHENYL 2,4,6-TRIBROMOPHENOL TERPHENYL-D14	30 34 98 82 33 88		% Rec % Rec % Rec % Rec % Rec % Rec

Sample Comments

BDL Below Detection Limit

Sample chain of custody number 15990.

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Additional copies of this report sent to: JOE RITCHIE, HERITAGE REMEDIATION/ENGINEERING, INC. 5656 OPPORTUNITY DRIVE, TOLEDO, OH 43612



CERTIFICATE OF ANALYSIS

	Service Location	Received	Project	Lab ID
	HERITAGE LABORATORIES, INC.	27-0CT-92	1871	A265473
	7901 W. MORRIS ST.	Complete	PO N	lumber
	INDIANAPOLIS, IN 46231	04-NOV-92	29-1	.463
	(317)243-8305	Printed	Samp	oled
L		06-NOV-92	22-0CT-	92

Report To

JEFF STEVENS HERITAGE REMEDIATION/ENGINEERING, INC 5656 OPPORTUNITY DRIVE TOLEDO, OH 43612

Bill To

STEVE SMITH HERITAGE REMEDIATION/ENGINEERING, INC. 5656 OPPURTUNITY DRIVE TOLEDO, OH 43612

Sample Description

SAMPLE ID: 10225 DESCRIPTION: TRIP BLANK PROJECT: DUPONT TOLEDO, OH

HRE JOB NO.: 62026 PROJECT NAME PROJECT NUMBER SAMPLE DESCRIPTION

VOLATILE ORGANICS SW846-824 Analyst: 1. VIEGAND Analy		nt: GC/MS VOA		Test	: 0510.3.	0
Paramete	Γ	Result		Det.		Units
CETONE		BDL			20	ug/L
ACROLEIN		BOL			50	
ACRYLONITRILE		BDL			<u>.</u> 70	ug/L
	· • • • • • • • • • • • • • • • • • • •	BDL				ug/L
BROMODICHLOROMETHANE		BDL			. 5	ug/L
BROMOFORM	. Waster	BDL	V		·5:	ug/L
BROMOMETHANE		BDL			10	ug/L
CARBON DISULFIDE		BDL			- 5	"ug/L
CARBON TETRACHLORIDE		BDL		_	5	ug/L
CHLOROBENZENE		BDL	İ		5.	ug/L
CHLOROETHANE		BDL			10	ug/L
CHLOROFORM		BDL			5	ug/L
CHLOROMETHANE		BDL			10	ug/L
DIBROMOCHLOROMETHANE		BDL			5	ug/L _
CIS-1,3-DICHLOROPROPENE		BDL			5	ug/L
DICHLORODIFLUOROMETHANE	•	BDL		•	₩ 5	ug/L
1,1-DICHLOROETHANE		BDL			5 5	ug/L
1,2-DICHLOROETHANE		BDL				ug/L
1,1-DICHLOROETHENE		BDL			5 5 5	ug/L
1,2-DICHLOROPROPANE		BDL		-	5	ug/L
ETHYLBENZENE		BDL			5	ug/L
FLUOROTRICHLOROMETHANE		BDL				ug/L
2-HEXANONE		BDL		_	10	ug/L
METHYLENE CHLORIDE		BDL			5	ug/L
METHYL ETHYL KETONE		BDL			10	ug/L
4-METHYL-2-PENTANONE		BDL			10	ug/L
STYRENE		BDL			5	ug/L
1,1,2,2-TETRACHLOROETHANE		BDL.			. 5	ug/L
TETRACHLOROETHENE	Mov	BDL			5	ug/L

Page 1 (continued on next page)

NOV ? RECO!

Lab Sample ID: A265473

Parameter	Result	Det. Limit	Units
TETRAHYDROFURAN	BDL	25	ug/L
OLUENE	BDL	5	ug/L
,2-DICHLOROETHENE (TOTAL)	BDL	5	ug/L
TRANS-1,3-DICHLOROPROPENE	BOL	5	ug/L
1,1,1-TRICHLOROETHANE	BDL		ug/L
1,1,2-TRICHLOROETHANE	THE AT DECLES		ug/L
TRICHLOROETHENE	BDL	5	l ug/L
VINYL ACETATE	BDL	10	ug/L
VINYL CHLORIDE	BOL	10	ug/L
XYLENE (TOTAL)	BOL	· • • • • • • • • • • • • • • • • • • •	ug/L
SURROGATE RECOVERY			ļ.
20KKOGA-1EWKEGOVEK-1		7 J.M	· .
DICHLOROETHANE=D4	106		% Rec
TOLUENE-D8	109	,	% Rec
, BROMOFEUOROBENZENE	iŏź		% Rec

Sample Comments

BDL Below Detection Limit

Sample chain of custody number 15990.

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Additional copies of this report sent to: JOE RITCHIE, HERITAGE REMEDIATION/ENGINEERING, INC. 656 OPPORTUNITY DRIVE, TOLEDO, OH 43612

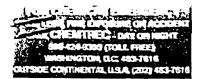
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EMS HERITAGE LABORATORIES, INC. 4132 POMPANO ROAD CHARLOTTE, N.C. 28216 (704) 393-1853

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ENVIRONMENTAL PROGRAM: CWA NPDES IWP SLUDGE BCRA MW SW DISPOSAL SDWA CERCLA/SUPERFUND OFFER Sampled by: SL , SAM Shinpled by: SL , SAM Shinpled Diste: Time: 8 9 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8																													a una p				827	or control	40	۸۵/۹۲	ŀ					Attn: Joc Phone: 900-	Ritchey 377 - 4886	•
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APPENDIX II

WASTE MANIFESTS



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Public reporting burder for this condition of intormation is estimated to iverage 37 minutes for generators 15 minutes for transporters and 10 minutes for freatment storage and disposal facilities. This includes time for reveiwing instructions gathering data, and completing and reviewing the form. Send comments regarding the burden estimate including suggestions for reducing this burden to Chief information Policy Branch. PM-223, U.S. Environmental Protection Agency, 401 M Street SW., Washington DC 20460, and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington DC 20503

SID NUMBER MUST BE SHOWN ON ALL FREIGHT BILLS AND CORRESPONDENCE

Shipment Identification Number

9 2 1 9 3 Form Approved OMS No. 2050-0039 Expires 9-30-92

ase print or type. (Form designed for use	on elite (12-pitch) typewriter.)			For	rm Approved OMI	3 No. 20	50-0039 Expires	9-30-92
UNIFORM HAZARDOUS	1. Generator's US EPA ID No.	Manifest	Document No.	2. Page	into mat		he shaded are	as is
WASTE MANIFEST	O H D O O 5 O 4 1	8 4 3 9 2	1 9 3	1 of			Federal law.	
3. Generator's Name and Mailing A				A. State	Manifest Doc	ument	Number	
E.I. DuPont de Nemou 1930 Tremainsville R	rs & Co., Inc.							
Toledo, Ohio 43613	α.			B. State	Generator's !	D		
4. Generator's Phone (419)	478-1211							
5. Transporter 1 Company Name	6.	US EPA ID Nu	ımber	C. State	Transporter's	ID,		
Metropolitan Environ	mental. Inc. T 1	N-T 1 9 0.0.	1 · 0 · 3 · 9 · 7	D. Trans	sporter's Phon	e 419	-586-663	8
7. Transporter 2 Company Name	8.	US EPA ID No			Transporter's			
				F. Trans	sporter's Phon	e		
9. Designated Facility Name and S	ite Address 10.	US EPA ID No	ımber	G. State	e Facility's ID			
LaFarge/Systech Corp	•							
11397 County Rd. 176				H. Facil	lity's Phone			
Paulding, Ohio	45879 0 1	H ·D O O 5 O·	4 8 9 4 7	419	9-399-483	5		
			12. Cont		13.	14.	1.	
11. US DOT Description (Including	Proper Shipping Name Hazard C	lass, and ID Numbe	No.	Type	Total Quantity	Unit Wt/Vol	Wasta N	lo.
a. HM RQ Waste Flammab	lo I fauld no o		_		5500		D001, D0	005
INQ WASCE I TAILLIAD				i .	3360	6	D007, D	
R (Xylene, Methyl Q UN 1993 (D001, D	Ethyl Ketone) 005, D007, D008)		0 0 1	т т <	28560	P	1	
b.	003, 200, 2000,							
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J. Additional Descriptions for Mate	rials Listed Above			K. Hand	dling Codes for	Waste	s Listed Abov	<u> </u>
D005 B000 B005	•			١.,	12006			1
D035, F003, F005	,				1–12996			
				Wo	ot-12			1
15. Special Handling Instructions a	and Additional Information			L	1 (Rail, Ca	argo Tank, Po	rtable
						Tank, f	Freight Conta	iner)
ERG #27	1011				X	Placarde	ed Flammab	le
24-hour 419-478-	-1211						1,000 lbs. or l	
						Placards	Provided	
16. GENERATOR'S CERTIFICATION:	i hereby declare that the conten- sified, packed, marked and labeled, a							
to applicable international and na	ational governmental regulations							
have determined to be economical	ator I certify that I have a program in Ily practicable and I have selected the	practicable method of	treatment, storage	e, or dispos	sal currently avail	able to		1
	id future threat to human nealth and th ration and select the best waste mai					d faith	Date	G
Printed/Typed Name		Signature/7		1			1600-00	2 11.8
; Denise Trabbic-Cleme	ent	Man	120 5 /	4	5. (B	17	1 0 1 - 6	<u> 19 2</u>
17. Transporter 1 Acknowledgement	of Receipt of Materials			-14 1			Date	
Printed/Typed Name		Signature	711				Month Day	Year
I ROY KODENBY	નસ ા સ	12	Vadeler	\sim			1/0/26	152
18. Transporter 2 Acknowledgeme	7-0-1	· · · · · · · · · · · · · · · · · · ·					Date	
Printed/Typed Name		Signature					Month Day	Year
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19. Discrepancy Indication Space						-	<u> </u>	
F								
A C								
I								[
20. Facility Owner or Operator: C	ertification of receipt of hazardi	ous materials cover	ed by this mani	est exce	pt as noted in	Item 1	9.	
1 :							Date	
Y Printed/Typed Name		Signature			 		Month Day	Year
		_					1 1	1 1



Department of Pollution Control and Ecology P. O. Box 8913 Little Rock, Arkansas 72219-8913 Telephone 501-562-7444 1

Form Approved, OMB No. 2050-0039, Expires 9-30-92 Please print or type: (Form designed for use on elite (12-pitch) typewriter.) Information in the shaded areas is not UNIFORM HAZARDOUS OHD 9 0 5 0 4 1 8 4 39 |2 |2 |1 |0 required by Federal law WASTE MANIFEST 3. Generator's Name and Mailing Address A. State Manifest Document Number Attn: DeniseTrabbic-Clement 1 E.I. Du Pont De Nemours & Co. OH 43613 B. State Generator's ID 1930 Tremainsville Road Toledo 4. Generator's Phone (419-478-121) US EPA ID Number C. State Transporter's ID 5. Transporter 1 Company Name D. Transporter's Phone 0 H D 9 8 17 10 12 11 10 12 19 Morrow Bulk Commodities Inc E. State Transporter's ID 7. Transporter 2 Company Name F. Transporter's Phone 9. Designated Facility Name and Site Address G. State Facility's ID Rineco 1007 Vulcan Rd. - Haskell H. Facility's Phone 501/778-9089 A,R,D981057870 Benton, AR. 72015 Unit Wt/Vol 11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number) Total I. Waste No. Quantity No. Туре P D Waste Flammable Liquid, N.O.S. (Toluene/N-Butyl Alcohol) D001_D005_D007_ED06 RQ (D007, D008) 3 D035_F085_F005 D001, D005 Hazardous Waste Solid, n.o.s. D007. D008 NA 9189 ORM-E D035, F003 F005 d. J. Additional Descriptions for Materials Listed Above C. Handling Codes for Wastes Listed Above a. 9209-4463 ERG#27 (Paint & Paint Contamintated) EMERGENCY RESPONSE INFORMATION: b. 9210-5925 ERG#31 (Wrangler) DeniseTrabbic-Clement /Chemtrec 419-478-1211 800-424-9300 if no alternate TSDF, return to generator 15. Special Handling Instructions and Additional Information Placcard Flammable GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and Arkansas state regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volumn and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford. Month Day Denise Trabbic-Clement 17 Transporter 1 Acknowledgement of Receipt of Materials Day John 12, 3,9,2 tev 18. Transporter 2 Acknowledgement of Receipt of Materials Month Day Printed/Typed Name 19. Discrepancy Indication Space 20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19. Month Day Printed/Typed Na FPA Form 8700-22 (Rev. 9-88) Previous edition is obsolete.

NOTICE: THE ORIGINAL AND NOT LESS THAN TWO 12) COPIES MUST MOVE WITH THE HAZARDOUS WASTE SHIPMENT, ONCE DELIVERED, THE TREAT-

MENT, STORAGE, DISPOSAL FACILITY MUST RETURN THIS ORIGINAL COPY TO THE GENERATOR.

KCAL EMERGENCY K. FIRE EXPOSURE OR ACCIDENT CHEMITREC - DAY OR NIGHT 800-424-9300 (TOLL FREE) WASHINGTON DC. 483-7616 SUTSIDE CONTINENTAL USA (202) 483-7616

Public reporting burden for this collection of information is estimated to average: 37 minutes for generators, 15 minutes for transporters, and 10 minutes for treatment, storage and disposal facilities, This includes time minutes for freatment, storage and disposal facilities. This includes time for reversing instructions, gathering data, and completing and reviewing the form. Send comments regarding the burden estimate, including suggestions for reducing this burden to Chief, information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street SW., Washington DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington DC 20503.

SID NUMBER MUST BE SHOWN ON ALL FREIGHT BILLS AND CORRESPONDENCE

Shipment Identification Number

9 2 2 0 1

lease print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved OMB No. 2050-0039 Expires 9-30-97 1. Generator's US EPA ID No. UNIFORM HAZARDOUS Manifest Document No. Information in the shaded areas is 음 not required by Federal law. WASTE MANIFEST 1 of 1 O H D 0 0 5 0 4 1 8 4 3 9 2 2 0 1 3. Generator's Name and Mailing Address A. State Manifest Document Number E.I. DuPont de Nemours & Co., Inc. 1930 Tremainsville Rd. B. State Generator's ID Toledo, Ohio 43613 4. Generator's Phone (419 478-1211 5. Transporter 1 Company Name 6 US EPA ID Number C. State Transporter's ID D. Transporter's Phone 419-586-6638 Metropolitan Environmental Inc. I 'N 'T ' 1 ' 9 ' 0 ' 0 ' 1 ' 0 ' 3 ' 9 ' 7. Transporter 2 Company Name 8. US EPA ID Number E. State Transporter's ID F. Transporter's Phone 9. Designated Facility Name and Site Address US EPA ID Number G. State Facility's ID 10. LaFarge/Systech Corp. 11397 County Rd. 176 H. Facility's Phone Paulding, Ohio 419-399-4835 OHD0005048947 12. Containers 13. 14. 11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number) Total Unit Waste No. G Type No. Quantity Wt/Vo D001, D005 N RQ Waste Flammable Liquid, n.o.s. 200 Ε D007, D008 (Xylene, Methyl Ethyl Ketone) R UN 1993 (DOO1, DOO5, DOO7, DOO8) A Ъ. O A C. d. J. Additional Descriptions for Materials Listed Above K. Handling Codes for Wastes Listed Above AA-12996 D035, F003, F005 WOT-12 15. Special Handling Instructions and Additional Information (Rail, Cargo Tank, Portable Tank, Freight Container) X Placarded Flammable nspor ERG #27 (Truck - 1,000 lbs. or More) 24-hour (419) 478-1211 **Placards Provided** 16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according O to applicable international and national governmental regulations. If I am a large quantity generator. I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment OR if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method available to me and w Date Origin Printed/Typed Name Signatur' Denise Trabbic-Clement 0.417. Transporter 1 Acknowledgement of Receipt of Materials Date Printed/Typed Name Signature Month Dav Y 481 AZSCORTER 5.2 0.4 NEWBERCH 18. Transporter 2 Acknowledgement of Receipt of Materials Date Printed/Typed Name Signature Month Day Year 19 Discrepancy Indication Space ť 20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19. Date Printed/Typed Name Signature

HAZARDOUS WASTE

STORAGE FACILITY

PART B CLOSURE REPORT

TANK # 14

E.I. DUPONT DE NEMOURS & CO.

TOLEDO AP PLANT

PREPARED FOR:

E.I. DuPont de Nemours & Co. Toledo AP Plant 1930 Tremainsville Road Toledo, Ohio 43613

PREPARED BY:

Heritage Remediation/Engineering, Inc. 5656 Opportunity Drive Toledo, Ohio 43612-2922

March 3, 1993



HAZARDOUS WASTE STORAGE FACILITY
PART B CLOSURE REPORT
TANK # 14
E.I. DUPONT DE NEMOURS & CO.
TOLEDO AP PLANT

PREPARED FOR:

E.I. DUPONT DE NEMOURS & CO.
TOLEDO AP PLANT
1930 TREMAINSVILLE ROAD
TOLEDO, OHIO 43613
419-478-1211

PREPARED BY:

HERITAGE REMEDIATION/ENGINEERING, INC. 5656 OPPORTUNITY DRIVE TOLEDO OH 43612-2922

Certified By:

Joseph D. Ritchey, P.E. Ohio Reg. No. E-53107
April 5, 1993

RECEIVED

APR 1 4 1993

OHIO E.P.A.

HAZARDOUS WASTE STORAGE FACILITY PART B CLOSURE REPORT FOR TANK # 14

TOLEDO AP PLANT 1930 TREMAINSVILLE ROAD TOLEDO, OH 43613

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1.0 INTRODUCTION

1.1 Closure Plan

The activities described herein were conducted in accordance with the approved Hazardous Waste Storage Facility Part B Closure Plan dated May 19, 1992. The referenced plan describes closure activities for all of the Toledo AP Plant areas including Tank #14.

1.2 FACILITY DESCRIPTION

The E. I. DuPont de Nemours & Co., Inc. facility manufactures automotive paints and resins. These processes or activities generate various wastes as described in Section 3.0 of the Hazardous Waste Storage Facility Part B Closure Plan dated May 19, 1992. The facility is located in Toledo, Lucas County, Ohio and is bordered by Harris Street and Jackman Rd. to the east, Tremainsville Rd. to the south, and railroad tracks to the west and north (See Figure 1). The Facility is approximately 17 acres in size.

1.3 TANK #14 AND SECONDARY CONTAINMENT DESCRIPTION

Tank #14 was cylindrical with a cone-shaped bottom and top. It was constructed in 1981 of carbon steel which is 3/8" thick on the bottom and sides to 8 feet and 3/16" on the sides above 8 feet and on the top. The sides are 16 feet tall, and the tank is 9.5 feet in diameter. The tank was operated at atmospheric pressure, and was vented through a conservation/flame arrestor vent.

The tank had four angle-iron legs, each 2.5 feet long. The legs were mounted on concrete piers 4 feet tall. The tank was located inside its own dike with concrete walls and floor, which had a capacity of 11,950 gallons. The dike has walls of 7.5 inch thick concrete and a floor of 4.5 inch concrete. The tank sits on four concrete piers, each of which is supported by a footer roughly 4 feet square and 9 inches thick. The bottom is sloped to a 4 foot by 4 foot sump (See Figure 2). The basin is recessed below the ground surface to a depth of four feet.

Prior to closure the tank was used to store dirty wash solvent from equipment cleaning processes in the manufacturing and resin areas. The tank was used as feed for solvent recovery.

2. CLOSURE ACTIVITIES

2.1 TANK #14 AND SECONDARY CONTAINMENT DECONTAMINATION

On September 16, 1992, HR/E participated in DuPont's contractor safety program. The following sections describe the decontamination procedures followed for the closure of the tank and containment area.

2.1.1 Tank #14 Decontamination

On September 16, 1992, following safety training, HR/E personnel set up scaffolding around the tank and the tank vent was opened so that the tank product level could be observed. The product level was such that a side manway was partially obstructed.

On September 17, 1992, HR/E and DuPont personnel pumped a solvent into the tank to loosen the tank product. This was accomplished by using a two inch suction hose and a M8 diaphragm pump. The equipment was set up to empty the liquid out of Tank #14 and to mix and break up the paint sludge within. After several pumpings the product level in Tank #14 dropped below the side manhole. This activity continued on September 23, 1992 when the side manway could be accessed. After accessing the tank (without entry) from the side manhole, a solvent stream was directed towards the paint sludge to dissolve it and pump it out. This activity was completed on September 30, 1992 with the tank being emptied of product. On October 1, 1992 a water pressure washer was used to rinse the inside of the tank.

All solvents, sludge, and rinseate were recovered in 500 gallon portable totes provided by DuPont. The tank was then air vented to insure the tank had a safe atmosphere with no LEL (lower explosive limit). A total of 1,070 gallons of product/sludge was removed from the tank. Approximately 880 gallons of solvent was used.

On October 2, 1992 piping and conduits were removed from the tank and the scaffolding taken down. On September 5, 1992 a 27-ton crane from Jeffers Company was utilized to move Tank #14 to the Drum Storage Pad. Four bolts which fastened the tank to the concrete base were removed after cables had been secured onto the tank. The crane picked the tank up and placed it on a low-boy truck trailer provided by the Morrow Bulk Company. After off-loading the tank to the northwest corner of the Drum Storage Pad, railroad ties were placed to stabilize the vessel for

further cleaning.

This cleaning started on October 6, 1992. Prior to entering Tank #14 for cleaning, DuPont facility safety personnel and the HR/R site safety officer monitored the tank and posted separate confined space entry permits. HR/E personnel then began water pressure washing Tank #14 with a pencil head tip to blast the remaining thin coated paint off the tank. A drum vacuum unit was mounted on the portable totes to recover all the rinseate. October 7, 1992, the tank was pressure washed and rinsed three times with plant tap water. Two and one half totes were used to contain the rinse water. Two valves were removed from the tank. On October 9, 1992, piping from the tank that had been removed was cut and drummed using a 4-wheel cutter. A tank entry permit was obtained on October 23, 1992 to allow a final rinse of the tank and sampling.

2.1.2 <u>Tank #14 Secondary Containment Pit</u> Decontamination

Decontamination of Tank #14's pit including its dike walls, floor and surrounding concrete area was started October 9, 1992. A visqueen canopy was constructed over the pit to contain the sandblast material and associated dust and paint residue. Sandblasting of the pit walls was performed on October 13 and 14, 1992. Sandblast solids were shoveled from the pit into 55-gallon drums. On October 19, 1992 HR/E repaired the visqueen canopy, damaged by high winds and rain. Water that had accumulated in the pit was removed by DuPont personnel. Sandblasting of the pit floor was performed October 21, 1992. Again sandblast solids were shoveled from the pit into 55-gallon drums. This was followed by vacuuming the area using a Tornado 250 cfm drum vacuum. The waste disposal manifest for drummed material is presented in Appendix II. On October 22, 1992, after the pit was sandblasted and vacuumed cleaned, the visqueen canopy was removed and the entire pit area was water pressure blasted with a pencil head tip. Following water blasting, the area was triple rinsed using plant tap water. All rinseate was collected into portable totes. Manifests for disposal of rinseate are included in Appendix II.

2.2 <u>DETAILS OF SAMPLING AND ANALYSIS</u>

2.2.1 Sampling and Analysis of Tank #14

On October 7, 1992, following the third pressure washing, a sample was taken of the fourth rinse using a single 40 mil glass vial to fill two 40 mil glass vials and one 16 oz. glass jar as appropriate for analysis. A sample was also collected of the plant tap water at from the faucet. This sample was labeled "water blank". Sampling was performed by Mr. Steve Klemm of HR/E. Samples were labeled and placed in a cooler containing ice. The samples were shipped via UPS over night to Heritage Laboratories, Inc. in Indianapolis, IN. The tank risneate sample was sent for total lead (Pb) analysis using USEPA Method SW846-6010.

Both samples, the Tank #14 Rinseate and the Water Blank showed no detectable Pb at a limit of 0.050 mg/L. Appendix I includes a copy of the certificates of analysis and the completed Chain-of-Custody form.

On October 23, 1992, following an additional rinse of the tank, a rinseate sample was taken using a single 40 mil glass vial to fill two 40 mil glass vials and one 16 oz. glass jar as appropriate for analysis. Sampling was performed by Mr. Steve Klemm of HR/E. The sample was labeled and placed in a cooler containing ice. On October 26, 1992 the samples were shipped via UPS over night to Heritage Laboratories, Inc. in Indianapolis, IN. The sample was sent for analysis as summarized in Table 1.

Table 1. Summary of Analyses and Analytical Methods

ANALYSIS	метнор
Volatile Organic Compounds	SW846-8240
Semi-Volatile Organic Compounds	SW846-8270
Arsenic	SW846-7060
Barium	SW846-6010
Cadmium	SW846-7131
Chromium	SW846-6010
Lead	SW846-7421
Mercury	SW846-7470
Selenium	SW846-7740
Silver	SW846-6010

2.2.2 Sampling and Analysis of Secondary Containment

On October 22, 1992, following the third pressure washing, a sample was taken of the fourth rinse using a single 40 mil glass vial to fill two 40 mil glass vials and one 16 oz. glass jar as appropriate for analysis. The sample was collected at the containment area sump. A sample was also collected of the plant tap water at from the faucet. This sample was labeled "Faucet Near Pit". Sampling was performed by Mr. Steve Klemm of HR/E. Samples were labeled and placed in a cooler containing ice. The samples were shipped via UPS over night to Heritage Laboratories, Inc. in Indianapolis, IN on October 26, 1992. The samples were submitted for analyses summarized in Table 1.

2.3 SUMMARY OF ANALYTICAL RESULTS

The closure plan stipulated that the final rinseates must meet or exceed:

- Fifteen times the public drinking water MCL for hazardous waste constituents.
- If an MCL is not available for a particular contaminant, then fifteen times the MCLG.
- If a product of fifteen time the MCL or MCLG exceeds 1
 mg/liter or if neither an MCL or MCLG is not available
 for a particular contaminant, 1 mg/liter shall be used as
 the clean standard.

The analytical results from tank and containment risneate are summarized in Table 2. Also included are the clean standards as determined from the approved closure plan and federal maximum contaminant levels (MCLs). In summary, both organic compounds and inorganic compounds were identified in the water from various sources, however, all detectable compounds were at levels below clean standard.

Therefore, Tank #14 is considered with in the EPA Clean Standard and may be disposed of or sold as scrap. At the time of preparation of this closure plan the tank had not been scraped or disposed.

Table 2 Analytical Data for RCRA Tank No. 14 Closure.

Constituent	MCL	MCLG	Clean	Tank	Pit	Faucet	Blank
	mg/€	mg/L	Standard mg/ £	Rinseate mg/l	Rinseate mg/l	Water mg/£	mg/L
Lab. Sample No.				A265472	A265468	A265471	A265473
	<u> </u>	Me	tals		11203100	11203471	.1203 113
Arsenic (As)	0.050	NA	0.750	<0.005	<0.005	< 0.005	< 0.005
Barium (Ba)	2.000	NA NA	1.000	<0.010	< 0.010	< 0.010	< 0.010
Cadmium (Cd)	0.005	0.005	0.080	0.0024	<0.001	< 0.001	<0.001
Chromium (Cr)	0.010	0.01	0.150	<0.010	<0.010	<0.010	<0.010
Lead (Pb)	0.015	NA	0.230	0.0055	< 0.005	< 0.005	< 0.005
Mercury (Hg)	0.002	0.002	0.030	<0.0002	< 0.0002	<0.0002	<0.0002
Selenium (Se)	0.050	0.05	0.750	<0.005	< 0.005	<0.005	< 0.005
Silver (Ag)	0.050	NA	0.750	<0.010	< 0.010	<0.010	< 0.010
	SANT OF THE SANT	Volatile	<u> </u>				<u> </u>
Benzene	0.005	NA	0.080	<0.005	<0.005	<0.005	< 0.005
O-dichlorobenzene	0.060	0.60	0.900	<0.010	< 0.010	< 0.010	< 0.010
P-dichlorobenzene	0.075	NA	1.000	<0.010	< 0.010	<0.010	< 0.010
Ethylbenzene	0.700	0.70	1.000	<0.005	< 0.005	< 0.005	< 0.005
Chlorobenzene	0.100	0.10	1.000	< 0.005	< 0.005	< 0.005	< 0.005
Toluene	1.000	1.00	1.000	<0.005	< 0.005	< 0.005	< 0.005
Total Xylenes	10.000	10.00	1.000	<0.005	< 0.005	< 0.005	< 0.005
Tetrachloroethene	0.005	0.00	0.080	<0.005	< 0.005	< 0.005	< 0.005
1,1,1-trichloroethane	0.200	NA	1.000	< 0.005	< 0.005	< 0.005	< 0.005
1,2-dichloroethane	0.005	NA	0.080	< 0.005	< 0.005	< 0.005	< 0.005
Trichloroethene	0.005	NA	0.080	< 0.005	< 0.005	< 0.005	< 0.005
1,1-dichloroethene	0.007	NA	0.110	< 0.005	< 0.005	< 0.005	< 0.005
c-1,2-dichloroethane	0.070	0.07	1.000	< 0.005	< 0.005	< 0.005	< 0.005
t-1,2-dichloroethane	0.100	0.10	1.000	< 0.005	< 0.005	< 0.005	< 0.005
Vinyl Chloride	0.002	NA	0.030	< 0.010	< 0.010	< 0.010	< 0.010
Carbon Tetrachloride	0.005	NA	0.080	< 0.005	< 0.005	< 0.005	< 0.005
Styrene	0.100	0.10	1.000	< 0.005	< 0.005	< 0.005	< 0.005
1,2-dichloropropane	0.005	NA	0.080	< 0.005	< 0.005	< 0.005	< 0.005
Total Trihalomethanes	0.100	NA	1.000	NM	NM	NM	NM
Acetone	NA	NA	1.000	0.052	< 0.020	< 0.020	< 0.020
Bromodichloromethane	NA	NA	1.000	< 0.005	< 0.005	0,005	< 0.005
Chloroform	NA	NA	1.000	< 0.005	< 0.005	0.008	< 0.005
	•	Semi-Volati	ile Organics		•		
Di(ethylbenzyl)phthalate	0.004	NA	0.060	NM	NM	NM	NM
Methylene Chloride	0.005	NA	0.080	< 0.005	< 0.005	< 0.005	< 0.005
Hexachlorobenzene	0.001	NA	0.020	< 0.010	< 0.010	< 0.010	< 0.010
1,2,4-trichlorobenzene	0.009	NA	0.140	< 0.010	< 0.010	< 0.010	< 0.010
1,1,2-trichloroethane	0.005	NA	0.080	< 0.005	< 0.005	< 0.005	< 0.005
Benzyl Alcohol	NA	NA	1.000	< 0.010	0.051	< 0.010	< 0.010
Bis(2-EH)Phthalate	NA	NA	1.000	< 0.010	0.092	< 0.010	< 0.010

NA - Not Applicable, NM - Not Measured

2.4 CERTIFICATION



This Closure has been performed as herein described.

Signature X

Name and Title Mr. Samuel J. Bright - Toledo Plant Manager

CERTIFICATION

I hereby certify that I have examined the facility and being familiar with the provisions of 40 CFR, Part 264.115/OAC 3745-66-15, attest that this closure has been preformed in accordance with the approved closure plan.

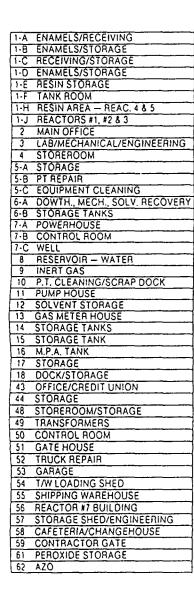
JOSEPH D. E-053107 o STATE

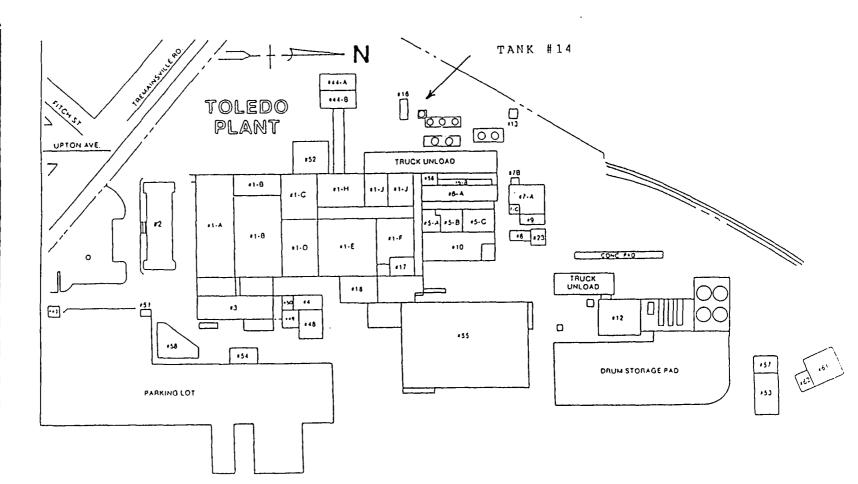
Joseph D. Ritchey, PE
Printed Name of Registered Professional Engineer

gignature of Registered Professional Engineer

E-53107 Registration No. Ohio State ATTACHMENT 1

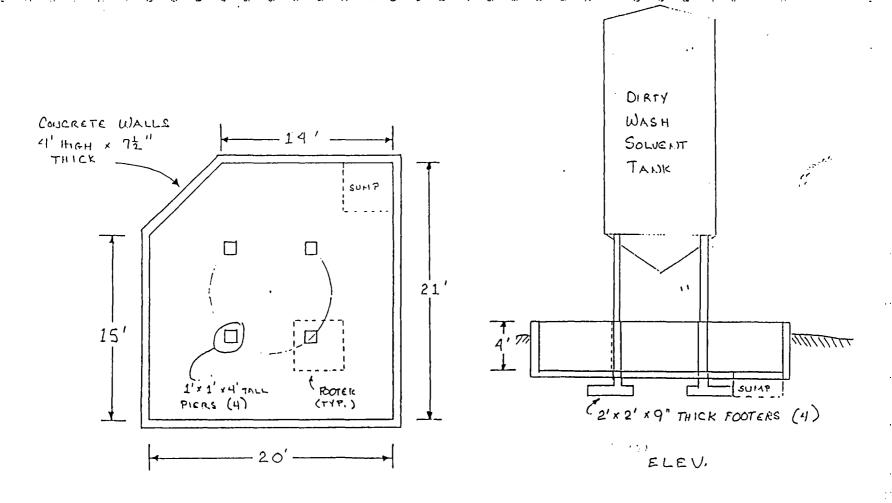
AREA MAP





ATTACHMENT 2 SKETCH OF TANK #14 AND DIKE

::



SCALE: 1/8" = 1 FOOT

EXISTING DIRTY WASH COLVENT TANK DIKE

APPENDIX I ANALYTICAL DATA REPORTS

CERTIFICATE OF ANALYSIS

Service Location	Received	Project	Lab ID
HERITAGE LABORATORIES, INC.	08-0CT-92		A263847
7901 W. MORRIS ST.	Complete	PO Number	
INDIANAPOLIS, IN 46231	12-0CT-92	29-1	725
(317)243-8305	Printed	Samp	led
	13-0CT-92	07- <u>0C</u> T-	92 15:40

Report To

Bill To

STEVE O. SMITH
HERITAGE REMEDIATION/ENGINEERING, INC.
5656 OPPORTUNITY DRIVE
TOLEDO, OH 43612

STEVE SMITH
HERITAGE REMEDIATION/ENGINEERING, INC.
5656 OPPURTUNITY DRIVE
TOLEDO, OH 43612

Sample Description

DESCRIPTION: TANK #14 RINSEATE

FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW84 Analyst: C. COFFEY Analysis Date: 09-001-92	6-3005	Test: P130.4.0
Parameter	Result	Det. Limit Units
INITIAL WEIGHT OR VOLUME	50	mL mL
FINAL WEIGHT OR VOLUME	50	mL

Analyst: M. JAO Analysis Date: 09-007-92 Instrument: ICP	Test: M116.3.0
Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0	
Parameter Result BDL	Det. Limit Units 0.050 mg/L

Sample Comments

SAMPLE PRESERVED AT HERITAGE UPON ARRIVAL.

BDL Below Detection Limit

Sample chain of custody number 15991.

IDEM Drinking Water Certification Number C-49-01

Toute I

CERTIFICATE OF ANALYSIS

Service Location	Received	Project	Lab ID
HERITAGE LABORATORIES, INC.	08-0CT-92		A263846
7901 W. MORRIS ST.	Complete	PO N	lumber
INDIANAPOLIS, IN 46231	12-OCT-92	29-1	725
(317)243-8305	Printed	Samp	led
	13-0CT-92	07-OCT-	92 15:30

Report To

Bill To

STEVE O. SMITH
HERITAGE REMEDIATION/ENGINEERING, INC.
5656 OPPORTUNITY DRIVE
TOLEDO, OH 43612

STEVE SMITH
HERITAGE REMEDIATION/ENGINEERING, INC.
5656 OPPURTUNITY DRIVE
TOLEDO, OH 43612

Sample Description

DESCRIPTION: WATER BLANK

FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW84	6-3005		
Analyst: C. COFFEY Analysis Date: 09-0CT-92		Test: P130.4	.0
Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL WEIGHT OR VOLUME	50.		mL

LEAD ICP SW846-6010 Analyst: M. JAO Analysis Date: 09-0CT-92 Instrume Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130	Maria Maria da Maria de Maria de Caracteria	Test: M116.3	0
Parameter	Result	Det. Limit	Units
LEAD	BDL	0.050	mg/L]

Sample Comments

SAMPLE PRESERVED AT HERITAGE UPON ARRIVAL.

BDL Below Detection Limit

Sample chain of custody number 15991.

IDEM Drinking Water Certification Number C-49-01

Hellison



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EMS HERITAGE LABORATORIES, INC.

4132 POMPANO ROAD

CHARLOTTE, N.C. 28216 (704) 393-1853

15991

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST FORM

Co. Nam	ie: D	· · · · +	Λ	4 ,	Attack Finish	. <	1	Т	Τ		Ar	alyses	Reque	ested:	I	Report To:	
Project N		<u>[</u> 2~	 -				┨ ,			(No	te spec	ial detecti	ion limit	s or methods)		4/6	
Quote N					PO No.:	725	13								Add:		
ENVIRO	NMEN						7 ->		} 	136. 136.	CH28				Attn: Joe 11	: 4 chy / Time 577 - 958	Pub.~
CWA	NPDE	:S	<u>-</u>	IWP	SLUDG	Ē	9.9			17.	7				*		
RCRA MWSWDISPOSAL					trix):			اد ا	tre-200					rnaround Request ect to Additional Char			
SDWA_	(CERCL	A/SU	PER	FUNDOTHE	R	Sample Type (Matrix): DW, GW, WW, Soil, Oll, Sludge, Other	Containers		Nutri	2)				Result Request	by:/	Day Yr
Sample	by:						w.ee Wy	Cont			12 A					Accepted and Approv	
Sample ID:	Date:	Time:	Сотр	Grab	Sample Desc	ription:	Samp Dw. G	No. of		הרעש	177				Re	marks:	EMS Sample No.
	1/1/4,	T G		أسمرة	water Bur		4. مرار د. مرار	1-16	7	~	~						1263846
	12/12	340		مرا	Transferting P	inscate	J.3.Tu	2-60,	4 2.	~	~				John		817
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Helinquisne			-		1/7/5/2 / 107/		_	•	3 -		I Devil	iquisi lea b	y. (Signa	iore)	/	neceived by: (Signatu	ire)
Relinquishe	d by: (Sig	nature)			Date /Time	Received by: (Signatur	e)			Relin	nquished b	y: (Signa	ture)	Date /Time	Received by: (Signatu	re)
					/										/		
Relinquishe	Relinquished by: (Signature) Date /Time Received for Lab by: (Signature) Received for Lab by: (Signature) Received for Lab by: (Signature)						15	Rema	rks: Log	رادم	in Fur	Pb 10/8/92					
	Distrib	oution: Y	ellow c	ору ге	eturned to client. Pink ∞p	y to be retaine	d by di	ient.						*45%	(P/+3)		

CERTIFICATE OF ANALYSIS

Service Location	Received	Project	Lab ID
HERITAGE LABORATORIES, INC.	27-0CT-92	1871	A265468
'901 W. MORRIS ST.	Complete	PO Number	
INDIANAPOLIS, IN 46231	20-NOV-92	29-1	463
(317)243-8305	Printed	Samp	led
	21-NOV-92	22-0CT-	92 15:18

Report To

Bill To

JEFF STEVENS
HERITAGE REMEDIATION/ENGINEERING, INC
5656 OPPORTUNITY DRIVE
TOLEDO, OH 43612

STEVE SMITH
HERITAGE REMEDIATION/ENGINEERING, INC.
5656 OPPURTUNITY DRIVE
TOLEDO, OH 43612

Sample Description

SAMPLE ID: 10221

DESCRIPTION: RINSEATE FROM PIT (TANK 14)

PROJECT: DUPONT TOLEDO, OH

HRE JOB NO.: 62026 PROJECT NAME PROJECT NUMBER SAMPLE DESCRIPTION

FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW84 Analyst: C. COFFEY Analysis Date: 03-NOV-92	6-3005	Test: P130.4	.0
Parameter	Result	Det. Limit	Units
ITTIAL WEIGHT OR VOLUME	50		mL
FINAL WEIGHT OR VOLUME	50	La caracter de la companya de la companya de la companya de la companya de la companya de la companya de la co	mL

GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 Analyst: S. SNYDER Analysis Date: 04-NOV-92		Test: P130.6	.0
Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL WEIGHT OR VOLUME	50		mL

MERCURY CVAA ACID DIGESTION OF AQUEOUS SAMPLES SW Analyst: R. BYERS Analysis Date: 06-NOV-92	846-7470	Test: P131.6	.0
Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	100		mL
FINAL VOLUME	100		mL

ARSENIC GFAA SW846-7060 Analyst: M. BAUER Analysis Date: 06-NOV-92 Instrument Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0	real collista i se traverti e la la collista de tra	Test: M103.2.	0
Parameter ARSENIC	Result	Det. Limit	Units
	BDL	0.0050	mg/L

BARIUM ICP SW846-6010		
Analyst: A. HILSCHER Analysis Date: 03-NOV-92 Instrumer	(a laft Million and the control of	Test: M104.3.0
Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130	4.0	
Parameter	Result	Det. Limit Units
ARIUM	BDL	0.010 mg/L

CADMIUM GFAA SW846-7131 Analyst: J. VANSKYOCK Analysis Date: 11-NOV-92 Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P		Test: M108.2.	.0
Parameter CADMIUM	Result BDL	Det. Limit 0.0010	Units mg/L
CHROMIUM ICP SW846-6010 Analyst: A. HILSCHER Analysis Date: 03-NOV-92 Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-	\$50,0° 1. Describedada dagram indona (v. 1	Test: M110.3	.0
Parameter CHROMIUM	Result BDL	Det. Limit 0.010	Units mg/L
LEAD GFAA SW846-7421 Analysi: M. BAUER Analysis Date: 09-NOV-92 Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P	ter in terminal and the contract of the contra	Test: M 116.2.	.0
Parameter LEAD	Result BDL	Det. Limit 0.0050	Units mg/L
MERCURY CVAA SW846-7470 Analyst: K. HACK Analysis Date: 07-NOV-92 Prep: MERCURY CVAA ACID DIGESTION OF AQUEOUS SAMPLES SW84		Test: M120.1	.0
Parameter MERCURY	Result BDL	Det. Limit 0.00020	Units mg/L
SELENIUM GFAA SW846-7740 Analyst: W. WAINESS Analysis Date: 06-NOV-92 Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P		Test: M128.2	.0
Parameter SELENIUM	Result BDL	Det. Limit 0.0050	Units mg/L
SILVER ICP SW846-6010 Analyst: A. HILSCHER Analysis Date: 03-NOV-92 Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-		Test: M130.3	.0

Parameter		Result	Det. Limit	Units
ACETONE	BDL		20	ug/L
ACROLEIN	BDL		50	ug/L
ACRYLONITRILE	BDL		70	ug/L
BENZENE	BDL		5	ug/L_
BROMODICHLOROMETHANE	BDL		5	ug/L
BROMOFORM	BDL		5	ug/L
BROMOMETHANE	BDL		10	ug/L
CARBON DISULFIDE	BDL	#1.W1. A	5	ug/L
CARBON TETRACHLORIDE	BDL	•	5	ug/L
CHLOROBENZENE	BDL		5	ug/L
CHLOROETHANE	BDL		10	ug/L
CHLOROFORM	BDL		5:	ug/L
CHLOROMETHANE	BDL		10	ug/L
DIBROMOCHLOROMETHANE	BDL		5	ug/L
CIS-1,3-DICHLOROPROPENE	BDL		5	ug/L
DICHLORODIFLUOROMETHANE	BDL		5	ug/L
1,1-DICHLOROETHANE	BDL		5 5	ug/L
1,2-DICHLOROETHANE	BDL		5	ug/L
1,1-DICHLOROETHENE	BDL		5	ug/L

Parameter

SILVER

Result

BDL

Det. Limit 0.010

Units

mg/L

Lab Sample ID: A265468

Parameter	Result	Det. Limit	Units
1,2-DICHLOROPROPANE	BDL	5	ug/L
THYLBENZENE	BDL	5:	ug/L
LUOROTRICHLOROMETHANE	BDL	5	ug/L
HEXANONE		10	ug/L
METHYLENE CHLORIDE	BDL	5	ug/L
METHYL ETHYL KETONE	BDL	10	ug/L
4-METHYL-2-PENTANONE	BDL	10	ug/L
STYRENE	BDL	5	ug/L
1,1,2,2-TETRACHLOROETHANE	BDL	5	
TETRACHLOROETHENE	BDL	5	
TETRAHYDROFURAN	BDL	25	ug/L
TOLUENE	BDL	5.	ug/L
1,2-DICHLOROETHENE (TOTAL)	BDL BDL	5 5	ug/L
TRANS-1,3-DICHLOROPROPENE	חחו		ug/L
1,1,1-TRICHLOROETHANE 1,1,2-TRICHLOROETHANE	BDL BDL	5 5	ug/L
TRICH OPOCTUCING	BDL	5	
TRICHLOROETHENE	BDL		ug/L
VINYL ACETATE:	BDL	10 10	ug/L
p invitation and the contract of the contract	BDL	5	ug/L
XYLENE (TOTAL)		J	ug/L
SURROGATE RECOVERY		unt mäny – 88	
	granden variation of the state	N	
DICHLOROETHANE-D4	101		% Rec
TOLUENE-D8	110		% Rec
BROMOFLUOROBENZENE	107		% Rec
CONDITOL PONTADENTE HERE AND A SECOND ASSESSMENT OF THE SECOND ASSESSME		<u> </u>	W-1100

C/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION Analyst: N. ROHADFOX Analysis Date: 28-OCT-92	SW846-3510	Test: P233.4	.0
Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	1000		mL
FINAL VOLUME	1.0	j. 1	mL.

SEMI-VOLATILE ORGANICS (BASE/NEUTRAL/ACID FRACTIONS) SW846-8270 Analyst: G. BARRETI Analysis Date: 30-0CT-92 Instrument: GC/MS SV0A Test: 0505.3.0 Prep: GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510 P233.4.0				
Parameter	Result	Det. Limit Units		
ACENAPHTHENE	BDL	10 ug/L		
ACENAPHTHYLENE	BDL	10 ug/L		
ANTHRACENE	BDL	10 ug/L		
BENZ (A) ANTHRACENE	BDL	10 ug/L		
BENZO(A) PYRENE	BDL	10 ug/L		
BENZO(B) FLUORANTHENE	BDL	10 ug/L		
BENZO(G,H,I)PERYLENE	BDL	10 ug/L		
BENZO(K) FLUORANTHENE	BDL	10 ug/L		
BENZYL ALCOHOL	51] 10 ug/L		
BENZYLBUTYLPHTHALATE	BDL	10 ug/L		
BIS(2-CHLOROETHOXY)METHANE	BDL	10 ug/L		
BIS(2-CHLOROETHYL)ETHER	BDL BDL	10 ug/L		
BIS(2-CHLOROISOPROPYL)ETHER	BDL	10 ug/L		
BIS(2-ETHYLHEXYL)PHTHALATE	92	10 ug/L		
4-BROMOPHENYLPHENYLETHER	BDL	10 ug/L		
CARBAZOLE	BDL	10 ug/L		
-CHLOROANILINE	BDL	10 ug/L		
-CHLORONAPHTHALENE	BDL	10 ug/L		
4-CHLOROPHENYLPHENYLETHER	BDL	10 ug/L		
CHRYSENE	BDL	10 ug/L		

Page 3 (continued on next page)

Parameter Result Det. DIBENZ(A,H)ANTHRACENE BDL PIBENZOFURAN BDL	Limit 10	Units
	10	
	10	ug/L
	10	
2-DICHLOROBENZENE BDL	10	ug/L
.,3-DICHLOROBENZENE BDL	10	ug/L
1,4-DICHLOROBENZENE BDL	10	ug/L
13,3'-DICHLOROBENZIDINE BDL	20	ug/L
DIETHYLPHTHALATE BDL	10	ug/L
DIMETHYLPHTHALATE	10	ug/L
DI-N-BUTYLPHTHALATE BDL	10	ug/L
DINITROBENZENES BDL	50	1 /1
2,4-DINITROTOLUENE BDL	10	ug/L ug/L
2,6-DINITROTOLUENE BDL		
	10	ug/L
DI-N-OCTYLPHTHALATE BDL	10	ug/L
FLUORANTHENE	10	
FLUORENE BDL	10	ug/L
HEXACHLOROBENZENE	10	ug/L
HEXACHLOROBUTADIENE BDL	10	ug/L
HEXACHLOROCYCLOPENTADIENE BDL BDL	10	
HEXACHLOROETHANE	10	ug/L
INDENO(1,2,3-CD)PYRENE BDL	10	ug/L
I SOPHORONE BDL	10	ug/L
2-METHYLNAPHTHALENE BDL	10	ug/L
NAPHTHALENE BDL	10	ug/L ug/L
2-NITROANILINE BDL	50	
and the configuration in the contract of the c		ug/L
3-NITROANILINE BDL	50	ug/L
4-NITROANILINE BDL	50	ug/L
NITROBENZENE BDL	10	ug/L
-NITROSO-DIPHENYLAMINE BDL	10	ug/L
-NITROSO-DI-N-PROPYLAMINE BDL	10	ug/L
PHENANTHRENE	10	ug/L
2-PICOLINE BDL	50	ug/L
PYRENE BDL	10	ug/L
PYRIDINE BDL	50	ug/L
TETRACHLOROBENZENES BDL	10	ug/L
TOLUENEDIAMINE BDL	50	ug/L
1,2,4=TRICHLOROBENZENE BDL	10	ug/L
BENZOIC ACID BDL	50	
		ug/L
	10	ug/L
2-CHLOROPHENOL BDL	10	ug/L
2,4-DICHLOROPHENOL BDL	10	ug/L
2,4-DIMETHYLPHENOL BDL	10	ug/L
4,6-DINITRO-2-METHYLPHENOL BDL	50	ug/L
2,4-DINITROPHENOL BDL	50	ug/L
2-METHYLPHENOL BDL	10	ug/L
4-METHYLPHENOL BDL	10	ug/L
2-NITROPHENOL BDL	10	
4-NITROPHENOL BDL	50	ug/L
PENTACHLOROPHENOL	50	
PHENOL BDL	10	ug/L
TETRACHLOROPHENOL	10	
		ug/L
2,4,5-TRICHLOROPHENOL BDL	50	ug/L
2,4,6-TRICHLOROPHENOL BDL	10	ug/L
HUDOCATE DECOVERY		1
URROGATE	7	
2-FLUOROPHENOL 26		% Rec
PHENOL-D5		% Rec

Page 4 (continued on next page)

HERITAGE LABORATORIES, INC.

Lab Sample ID: A265468

Г	Parameter	Result	Det. Limit	Units
N	IITROBENZENE-D5	78		% Rec
	FLUOROBIPHENYL	89		% Rec
	4,6-TRIBROMOPHENOL	25		% Rec
40	_RPHENYL-D14	89		% Rec

Sample Comments

BDL Below Detection Limit

Sample chain of custody number 15990.

IDEM Drinking Water Certification Number C-49-01 This Certificate shall not be reproduced, except in full, without the written approval of the lab.

Additional copies of this report sent to: JOE RITCHIE, HERITAGE REMEDIATION/ENGINEERING, INC. 5656 OPPORTUNITY DRIVE, TOLEDO, OH 43612

Quality Assurance Officer:

CERTIFICATE OF ANALYSIS

Service Location	Received	Project	Lab ID
HERITAGE LABORATORIES, INC.	27-0CT-92	1871	A265471
7901 W. MORRIS ST.	Complete	PO N	lumber
INDIANAPOLIS, IN 46231	12-NOV-92	29-1	463
(317)243-8305	Printed	Samp	led
1	13-NOV-92	22-0CT-	92 15:50

Report To

Bill To

JEFF STEVENS
HERITAGE REMEDIATION/ENGINEERING, INC
5656 OPPORTUNITY DRIVE
TOLEDO, OH 43612

STEVE SMITH
HERITAGE REMEDIATION/ENGINEERING, INC.
5656 OPPURTUNITY DRIVE
TOLEDO, OH 43612

Sample Description

SAMPLE ID: 10222

DESCRIPTION: FAUCET NEAR PIT PROJECT: DUPONT TOLEDO, OH

HRE JOB NO.: 62026 PROJECT NAME PROJECT NUMBER SAMPLE DESCRIPTION

FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW84	16-3005	4,	
Analyst: C. COFFEY Analysis Date: 04-NOV-92		Test: P130.4	.0
Parameter	Result	Det. Limit	Units
NITIAL WEIGHT OR VOLUME	50		mL
FINAL WEIGHT OR VOLUME	50		mL

GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-30 Analyst: S. SNYDER Analysis Date: 04-NOV-92	Test: P130.6.0		
Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL WEIGHT OR VOLUME	50		h m L

MERCURY CVAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-7470 Analyst: R. BYERS Analysis Date: 06-NOV-92 Test: P131.6.0			5.0
Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	100		mL
FINAL VOLUME	100		mL _

ARSENIC GFAA SW846-7060 Analyst: M. BAUER Analysis Date: 06-NOV-92 Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P1	P .	Test: M103.2.0	
Parameter	Result	Det. Limit Ur	nits
ARSENIC	BDL	0.0050 mg/	L

BARIUM ICP SW846-6010		
Analysis M. JAO Analysis Dat Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS	e: 05-NOV-92 Instrument: ICP	Test: M104.3.0
Parameter	Result	Det. Limit Units
ARIUM	BDL	0.010 mg/L

HERITAGE LABORATORIES, INC.		Lab Sample ID: A265471
CADMIUM GFAA SW846-7131 Analyst: J. VANSKYOCK Analysis Date: 11-NOV-92 Instr Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.		Test:: M108.2.0
Parameter CADMIUM	Result BDL	Det. Limit Units 0.0010 mg/L
CHROMIUM ICP SW846-6010 Analyst: M. JAO Analysis Date: 05-NOV-92 Instr Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 F		Test: M110.3,0
Parameter CHROMIUM	Result BDL	Det. Limit Units 0.010 mg/L
LEAD GFAA SW846-7421 Analyst: M. BAUER Analysis Date: 09-NOV-92 Instr Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.	NA	Test: #116.2.0
Parameter LEAD	Result BDL	Det. Limit Units 0.0050 mg/L
MERCURY CVAA SW846-7470 Analyst: K. HACK Analysis Date: 07-NOV-92 Instr Prep: MERCURY CVAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-7470	-0.160 U.S. 51 -0.06160 1 S	Test: M120.1.0
Parameter MERCURY	Result BDL	Det. Limit Units 0.00020 mg/L
SELENIUM GFAA SW846-7740 Analyst: W. WATNESS Analysis Date: 06-NOV-92 Instr Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.	ument: GFAA .O	Test: M128,2,0
Parameter SELENIUM	Result BDL	Det. Limit Units 0.0050 mg/L
SILVER ICP SW846-6010 Analyst: M. JAO Analyst: M. JAO Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 F		Test: M130.3.0
SILVER Parameter	Result BDL	Det. Limit Units 0.010 mg/L
VOLATILE ORGANICS SW846-8240 Analyst: T. WIEGAND Analysis Date: 03-NOV-92 Instr	ument: GC/MS VOA	Test: 0510.3:0
ACETONE ACROLEIN ACRYLONITRILE BENZENE BROMODICHLOROMETHANE BROMOFORM BROMOMETHANE CARBON DISULFIDE CARBON TETRACHLORIDE CHLOROBENZENE CHLOROETHANE CHLOROFORM CHLOROMETHANE DIBROMOCHLOROMETHANE CIS-1,3-DICHLOROPROPENE DICHLORODIFLUÖROMETHANE 1,1-DICHLOROETHANE	Result BDL BDL BDL EST 5 BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL	Det. Limit
1,2-DICHLOROETHANE 1,1-DICHLOROETHENE	BDL BDL Page 2	5 ug/L 5 ug/L 2 (continued on next page)

Lab Sample ID: A265471

Parameter	Result	Det. Limit	Units
1,2-DICHLOROPROPANE	BDL	5	ug/L
FTHYLBENZENE	BDL	5	ug/L
UOROTRICHLOROMETHANE	BDL	5	ug/L
HEXANONE	BDL	10	ug/L
METHYLENE CHLORIDE	BDL	5	ug/L
METHYL ETHYL KETONE	BDL	10	ug/L
4-METHYL-2-PENTANONE	BDL	10	ug/L
STYRENE	BDL	5 5	ug/L
1,1,2,2-TETRACHLOROETHANE	BDL	· 5	ug/L
TÉTRACHLOROETHENE	rBDL:	5	ug/L
' TETRAHYDROFURAN	BDL	25	ug/L
TOLUENE 1,2-DICHLOROETHENE (TOTAL) TRANS-1,3-DICHLOROPROPENE	BDL	5	ug/L
[1,2-DICHLOROETHENE (TOTAL)	BDL	5 5	ug/L
TRANS-1,3-DICHLOROPROPENE	BDL	5.00	ug/L
1,1,1-TRICHLOROETHANE	BDL	5 5	ug/L
1,1,2-TRICHLOROETHANE	BDL	<u>5</u>	ug/L
TRICHLOROETHENE	BDL	5	ug/L
VINYL ACETATE	BDL	10	ug/L
VINYL CHLORIDE	BDL	10	ug/L
XYLENE (TOTAL)	BDL	5	ug/L
• • • • • • • • • • • • • • • • • • •			
SURROGATE RECOVERY			The State of the S
DICHEODOFTHANE DE			
	103		% Rec
TOLUENE-D8	110		% Rec
BROMOFLUOROBENZENE	108		% Rec

C/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION No. ROHADFOX Analysis Date: 28-OCT-92	ON SW846-3510	Test: P233.4	·-0
Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	1000		mL
FINAL VOLUME	1.0		mL

SEMI-VOLATILE ORGANICS (BASE/NEUTRAL/AC Analyst: G. BARRETT Analysis Date: 02-NOV- Prep: GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION	92 Instrument: GC/MS SVOA	Test: 0505.3	.0
Parameter	Result	Det. Limit	Units
ACENAPHTHENE	BDL	10	ug/L
ACENAPHTHYLENE	BDL	10	ug/L
ANTHRACENE	BDL	10	ug/L
BENZ (A) ANTHRACENE	BDL	10	ug/L
BENZO(A)PYRENE	BDL] 10	ug/L
, BENZO(B) FLUORANTHENE	BDL	10	ug/L
BENZO(G,H,I)PERYLENE	BDL	10	ug/L
BENZO(K) FLUORANTHENE	BDL	10	ug/L
BENZYL ALCOHOL	BDL	10	ug/L
BENZYLBUTYLPHTHALATE	BDL	10.	ug/L
BIS(2-CHLOROETHOXY)METHANE	BDL	10	ug/L
BIS(2-CHLOROETHYL)ETHER	BDL	10	ug/L
BIS(2-CHLOROISOPROPYL)ETHER	BDL	10	ug/L
BIS(2-ETHYLHEXYL)PHTHALATE	BDL	10	ug/L
4-BROMOPHENYLPHENYLETHER	BDL	10	ug/L
CARBAZOLE	BDL	10	ug/L
-CHLOROANILINE	BDL	10	ug/L
-CHLORONAPHTHALENE	BDL	10	ug/L
4-CHLOROPHENYLPHENYLETHER	BDL	10	ug/L
CHRYSENE	BDL	10	

TIERTIAGE EADORATORIES, TRO.	Y 	D Jampie 10	
Parameter	Result	Det. Limit	Units
DIBENZ(A,H)ANTHRACENE	BDL	10	ug/L
DIBENZOFURAN	BĎĿ	10	ug/L
,2-DICHLOROBENZENE	BDL	10	ug/L
1,3-DICHLOROBENZENE	BDL	10	ug/L
1,4-DICHLOROBENZENE	BDL	10	ug/L
3,3'-DICHLOROBENZIDINE	BDL	20	ug/L
DIETHYLPHTHALATE	BDL	10	ug/L
DIMETHYL PHTHALATE	RDI	10	ug/L
DI_N_RIITYI PHTHAI ATF	BDL	10	ug/L
DI-N-BUTYLPHTHALATE DINITROBENZENES 2,4-DINITROTOLUENE	BDL	50	ug/L
2 A DINITEDATOLIENE	BDL	10	ug/L ug/L
2,4-DINITROTOLUENE 2,6-DINITROTOLUENE	BDL		
12,0-DINITROTOLOUTIL	יטטנ	10	ug/L
DI-N-OCTYLPHTHALATE	BDL	10	ug/L
FLUORANTHENE	BDL	10	
FLUORENE	BDL	10	ug/L
HEXACHLOROBENZENE	BDL	10	ug/L
HEXACHLOROBUTADIENE	BDL	10	ug/L
HEXACHLOROCYCLOPENTADIENE	BDL	10	ug/L
HEXACHLOROETHANE	BDL	10	ug/L
INDENO(1,2,3-CD)PYRENE	BDL	10	ug/L
TSOPHOPONE	BDL	10	ug/L
2-METHYLNAPHTHALENE	BDL	10	ug/L
INADUTUALENE	BDL	10	ug/L
2-NITROANILINE	BDL	50	
1 2 NITDOANII INC	BDL	50	ug/L
4-NITROANILINE	BDL	50	
NITROBENZENE	BDL	10	ug/L
N-NITROSO-DIPHENYLAMINE	BDL	10	
N-NITROSO-DI MEDDODVIAMINE	1		ug/L
-NITROSO-DI-N-PROPYLAMINE	BDL	10	ug/L
PHENANTHRENE'S TO A CASE WAS	BDL	10	ug/L
2-PICOLINE	BDL	50	ug/L
PYRENE	BDL	10	
PYRIDINE	BDL	50	ug/L
TETRACHLOROBENZENES	BDL	10	ug/L
TOLUENEDIAMINE	BDL	50	ug/L
1,2,4-TRICHLOROBENZENE	BDL	10	ug/L
BENZOIC ACID	BDL	50	ug/L
4-CHLORO-3-METHYLPHENOL	BDL	10	ug/L
2-CHLOROPHENOL	BDL	10	
2,4-DICHLOROPHENOL	BDL	10	
2,4-DIMETHYLPHENOL	BDL	10	
4,6-DINITRO-2-METHYLPHENOL	BDL	50	
2,4-DINITROPHENOL	BDL	50	
2-METHYLPHENOL	BDL	10	•
4-METHYLPHENOL	BDL		
	BDL	10	
2-NITROPHENOL	I and the second	10	
4-NITROPHENOL	BDL	50	
PENTACHLOROPHENOL	BDL		ug/L
PHENOL	BDL	10	•
TETRACHLOROPHENOL	BDL	10	
2,4,5-TRICHLOROPHENOL	BDL	50	• • • • • • • • • • • • • • • • • • • •
2,4,6-TRICHLOROPHENOL	BDL	10	ug/L
•		-	
SURROGATE RECOVERY			
2-FLUOROPHENOL	49		% Rec
PHENOL-D5	33		% Rec
L	1. 	1	

Page 4 (continued on next page)

HERITAGE LABORATORIES, INC.

Lab Sample ID: A265471

Parameter	Result	Det. Limit	Units
NITROBENZENE-D5	105		% Rec
2-FLUOROBIPHENYL	89		% Rec
!,4,6-TRIBROMOPHENOL	70		% Rec
ERPHENYL-D14	98		% Rec

Sample Comments

BDL Below Detection Limit

EST Estimated Value

Sample chain of custody number 15990.

IDEM Drinking Water Certification Number C-49-01 This tertificate shall not be reproduced, except in full, without the written approval of the lab.

Additional copies of this report sent to: JOE RITCHIE, HERITAGE REMEDIATION/ENGINEERING, INC. 5656 OPPORTUNITY DRIVE, TOLEDO, OH 43612

Bellion

Service Location	Received	Project	Lab ID
HERITAGE LABORATORIES, INC.	27-0CT-92	1871	A265472
'901 W: MORRIS ST.	Complete	PO N	lumber
_NDIANAPOLIS, IN 46231	12-NOV-92	29-1	463
(317)243-8305	Printed	Samp	led
	13-NOV-92	23-0CT-	92 10:15

Report To

Bill To

JEFF STEVENS
HERITAGE REMEDIATION/ENGINEERING, INC
5656 OPPORTUNITY DRIVE
TOLEDO, OH 43612

STEVE SMITH
HERITAGE REMEDIATION/ENGINEERING, INC.
5656 OPPURTUNITY DRIVE
TOLEDO, OH 43612

Sample Description

SAMPLE ID: 10233

DESCRIPTION: TANK 14 RINSEATE PROJECT: DUPONT TOLEDO, OH

HRE JOB NO.: 62026

PROJECT NAME
PROJECT NUMBER
SAMPLE DESCRIPTION

FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES Analyst: C. COFFEY Analysis Date: 04-NOV-92	SW846-3005	1.15	.0
Parameter	Result	Det. Limit	Units
IITIAL WEIGHT OR VOLUME	50		mL
FINAL WEIGHT OR VOLUME	50		l mL

GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 Analysis Date: 04-NOV-92		Test: P130.6	.0
Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL WEIGHT OR VOLUME	50		mL

MERCURY CVAA ACID DIGESTION OF AQUEOUS SAME			
Analyst: R. BYERS Analysis Date: 06-NOV-92		Test: P131.6	5.0
Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	100		mL
FINAL VOLUME	100		mL

ARSENIC GFAA SW846-7060 Analyst: M. BAUER Analysis Date: 06-NOV-92 Instrume Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0	nt: GFAA	Test: M103.2	:0:
Parameter ARSENIC	Result	Det. Limit	Units
	BDL	0.0050	mg/L

BARIUM ICP SW846-6010 Analyst: M. JAO Analysis Date: 05-NOV-92 I Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-30	· · ·	Test: M104.3.	,0:
Parameter	Result	Det. Limit	Units
ARIUM_	BDL	0.010	mg/L

	INC.		Lab Sample ID: A265472
CADMIUM GFAA SW846-7131	to a contract of the contract		
Analyst: J. VANSKYOCK Prep: GFAA ACID DIGESTION OF AQU			Test: W108.2.0
· -	ameter	Result	Det. Limit Units
CADMIUM 1:2 DILUTION		0.0024	0.0020 mg/L
CHROMIUM ICP SW846-6010 Analyst: M. JAO Prep: FAA OR ICP ACID DIGESTION	Analysis Date: 05-NOV-92 Instr	999900990 4 1 4 1 4 1 4 1 4 1 4 1 4 1 4 1 4 1 4	Test: M110 3:0
Para CHROMIUM	ameter	Result BDL	Det. Limit Units 0.010 mg/L
LEAD GFAA SW846-7421 Analyst: M. BAUER Prep: GFAA ACID DIGESTION OF AG	801001 J. J. F. Porki, D. L. Chirles B. H. P. Arris, J. S. Sobol, Sulphill A. Sobolando	300000000000	Test: M116.2.0
Pera LEAD	meter	Result 0.0055	Det. Limit Units 0.0050 mg/L
MERCURY CVAA SW846-7470 Analyst: K. HACK Prep: MERCURY CVAA ACID DIGESTIC		COMMISSION CONTRACTOR CONTROL OF A CONTRACT OF A CONTRA	Test::M120.1.0
Para MERCURY	meter	Result BDL	Det. Limit Units 0.00020 mg/L
SELENIUM GFAA SW846-7740 Analyst: W. WATNESS A Prep: GFAA ACID DIGESTION OF AQU	Analysis Date: 06-NOV-92 Instr	[23 1.36 A 40000000 Deve 4 Nove	Test: M128.2.0
SELENIUM Para	meter	Result BDL	Det. Limit Units 0.0050 mg/L
	Analysis Date: 05-NOV-92 Instr	BDL ument: 1CP	
SELENIUM SILVER ICP SW846-6010 Analyst: M. JAO A Prep: FAA OR ICP ACID DIGESTION Para	Analysis Date: 05-NOV-92 Instr	BDL ument: ICP 130.4.0 Result	0.0050 mg/L Test: M130.3.0 Det. Limit Units
SELENIUM SILVER ICP SW846-6010 Analyst: M. JAO Prep: FAA OR ICP ACID DIGESTION Para	Analysis Date: 05-NOV-92 Instr OF AQUEOUS SAMPLES SW846-3005 P	BDL ument: 1CP 130.4:0	0.0050 mg/L Test: M130.3.0
SELENIUM SILVER ICP SW846-6010 Analyst: M. JAO Prep: FAA OR ICP ACID DIGESTION Para SILVER VOLATILE ORGANICS SW846-	Analysis Date: 05-NOV-92 Instr OF AQUEOUS SAMPLES SW846-3005 P Imeter 8240	BDL ument: ICP 130.4.0 Result BDL	0.0050 mg/L Test: M130.3.0 Det. Limit Units mg/L
SELENIUM SILVER ICP SW846-6010 Analyst: M. JAO A Prep: FAA OR ICP ACID DIGESTION Para SILVER VOLATILE ORGANICS SW846- Analyst: T. WIEGAND A	Analysis Date: 05-NOV-92 Instr OF AQUEOUS SAMPLES SW846-3005 P Immeter 8240	BDL ument: ICP 130.4:0 Result BDL ument: GC/MS VOA Result	0.0050 mg/L Test: M130.3.0 Det. Limit Units
SELENIUM SILVER ICP SW846-6010 Analyst: M. JAO Prep: FAA OR ICP ACID DIGESTION Para SILVER VOLATILE ORGANICS SW846- Analyst: T. WIEGAND Para ACETONE	Analysis Date: 05-NOV-92 Instr OF AQUEOUS SAMPLES SW846-3005 P nmeter 8240 Analysis Date: 03-NOV-92 Instr	BDL ument: ICP 130.4:0 Result BDL ument: GC/MS VOA Result 52	0.0050 mg/L Test: M130.3.0 Det. Limit Units mg/L Test: 0510.3.0 Det. Limit Units ug/L
SELENIUM SILVER ICP SW846-6010 Analyst: M. JAO Prep: FAA OR ICP ACID DIGESTION Para SILVER VOLATILE ORGANICS SW846- Analyst: T. WIEGAND Para ACETONE ACROLEIN	Analysis Date: 05-NOV-92 Instr OF AQUEOUS SAMPLES SW846-3005 P nmeter 8240 Analysis Date: 03-NOV-92 Instr	BDL Whent: ICP P130.4.0 Result BDL Ument: GC/MS VOA Result 52 BDL	0.0050 mg/L Test: M130.3.0 Det. Limit Units mg/L Test: 0510.3.0 Det. Limit Units ug/L 20 ug/L 50 ug/L
SELENIUM SILVER ICP SW846-6010 Analyst: M. JAO Prep: FAA OR ICP ACID DIGESTION Para SILVER VOLATILE ORGANICS SW846- Analyst: T. WIEGAND Para ACETONE ACROLEIN ACRYLONITRILE	Analysis Date: 05-NOV-92 Instr OF AQUEOUS SAMPLES SW846-3005 P nmeter 8240 Analysis Date: 03-NOV-92 Instr	BDL wment: ICP P130.4.0 Result BDL wment: GC/MS VOA Result 52 BDL BDL BDL	0.0050 mg/L Test: M130.3.0 Det. Limit Units mg/L Test: 0510.3.0 Det. Limit Units ug/L 50 ug/L 70 ug/L
SELENIUM SILVER ICP SW846-6010 Analyst: M. JAO Prep: FAA OR ICP ACID DIGESTION Para SILVER VOLATILE ORGANICS SW846- Analyst: T. WIEGAND ACETONE ACROLEIN ACRYLONITRILE BENZENE	Analysis Date: 05-NOV-92 Instr OF AQUEOUS SAMPLES SW846-3005 P nmeter 8240 Analysis Date: 03-NOV-92 Instr	BDL wment: ICP 130.4.0 Result BDL wment: GC/MS VOA Result 52 BDL BDL BDL BDL	0.0050 mg/L Test: M130.3.0 Det. Limit Units 0.010 mg/L Test: 0510.3.0 Det. Limit Units 20 ug/L 50 ug/L 70 ug/L 5 ug/L 5 ug/L
SELENIUM SILVER ICP SW846-6010 Analyst: M. JAO A Prep: FAA OR ICP ACID DIGESTION Para SILVER VOLATILE ORGANICS SW846- Analyst: T. WIEGAND A Para ACETONE ACROLEIN ACRYLONITRILE BENZENE BROMODICHLOROMETHANE	Analysis Date: 05-NOV-92 Instr OF AQUEOUS SAMPLES SW846-3005 P nmeter 8240 Analysis Date: 03-NOV-92 Instr	BDL wment: ICP 130.4:0 Result BDL wment: GC/MS VOA Result 52 BDL BDL BDL BDL BDL BDL BDL	0.0050 mg/L Test: M130.3.0 Det. Limit Units 0.010 mg/L Test: 0510.3.0 Det. Limit Units 20 ug/L 50 ug/L 5 ug/L 5 ug/L 5 ug/L 5 ug/L 5 ug/L 5 ug/L
SELENIUM SILVER ICP SW846-6010 Analyst: M. JAO A Prep: FAA OR ICP ACID DIGESTION Para SILVER VOLATILE ORGANICS SW846- Analyst: T. WIEGAND A PARA ACETONE ACROLEIN ACRYLONITRILE BENZENE BROMODICHLOROMETHANE BROMOFORM	Analysis Date: 05-NOV-92 Instr OF AQUEOUS SAMPLES SW846-3005 P nmeter 8240 Analysis Date: 03-NOV-92 Instr	BDL ument: ICP 130.4:0 Result BDL ument:: GC/MS VOA Result 52 BDL BDL BDL BDL BDL BDL BDL BD	0.0050 mg/L Test: M130.3.0 Det. Limit Units mg/L Test: 0510.3.0 Det. Limit Units ug/L 50 ug/L 70 ug/L 5 ug/L 5 ug/L 5 ug/L 5 ug/L 5 ug/L 5 ug/L 5 ug/L
SELENIUM SILVER ICP SW846-6010 Analyst: M. JAO A Prep: FAA OR ICP ACID DIGESTION Para SILVER VOLATILE ORGANICS SW846- Analyst: I. WIEGAND A PARA ACETONE ACROLEIN ACRYLONITRILE BENZENE BROMODICHLOROMETHANE BROMOFORM BROMOMETHANE	Analysis Date: 05-NOV-92 Instr OF AQUEOUS SAMPLES SW846-3005 P nmeter 8240 Analysis Date: 03-NOV-92 Instr	BDL ument: ICP 130.4.0 Result BDL ument: GC/MS VOA Result 52 BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL	0.0050 mg/L Test: M130.3.0 Det. Limit Units mg/L Test: 0510.3.0 Det. Limit Units ug/L 50 ug/L 70 ug/L 5 ug/L 5 ug/L 5 ug/L 10 ug/L
SELENIUM SILVER ICP SW846-6010 Analyst: M. JAO Prep: FAA OR ICP ACID DIGESTION Para SILVER VOLATILE ORGANICS SW846- Analyst: T. WIEGAND ACETONE ACCROLEIN ACCRYLONITRILE BENZENE BROMODICHLOROMETHANE BROMOFORM BROMOMETHANE CARBON DISULFIDE	Analysis Date: 05-NOV-92 Instr OF AQUEOUS SAMPLES SW846-3005 P nmeter 8240 Analysis Date: 03-NOV-92 Instr	BDL wment: ICP 130.4.0 Result BDL wment: GC/MS VOA Result 52 BDL BDL BDL BDL BDL BDL BDL BD	0.0050 mg/L Test: M130.3.0 Det. Limit Units 0.010 mg/L Test: 0510.3.0 Det. Limit Units 20 ug/L 50 ug/L 50 ug/L 5 ug/L 5 ug/L 5 ug/L 5 ug/L 5 ug/L 5 ug/L 5 ug/L 5 ug/L 5 ug/L 5 ug/L 5 ug/L 5 ug/L 5 ug/L 5 ug/L 5 ug/L 5 ug/L
SELENIUM SILVER ICP SW846-6010 Analyst: M. JAO Prep: FAA OR ICP ACID DIGESTION Para SILVER VOLATILE ORGANICS SW846- Analyst: T. WIEGAND ACETONE ACROLEIN ACRYLONITRILE BENZENE BROMODICHLOROMETHANE BROMOFORM BROMOMETHANE CARBON DISULFIDE CARBON TETRACHLORIDE	Analysis Date: 05-NOV-92 Instr OF AQUEOUS SAMPLES SW846-3005 P nmeter 8240 Analysis Date: 03-NOV-92 Instr	BDL Result BDL Ument: GC/MS VOA Result 52 BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL	0.0050 mg/L Test: M130.3.0 Det. Limit Units mg/L Test: 0510.3.0 Det. Limit Units ug/L 50 ug/L 70 ug/L 5 ug/L 5 ug/L 5 ug/L 5 ug/L 5 ug/L 5 ug/L 5 ug/L 5 ug/L 5 ug/L 5 ug/L 5 ug/L 5 ug/L 5 ug/L 5 ug/L 5 ug/L 5 ug/L 5 ug/L
SELENIUM SILVER ICP SW846-6010 Analyst: M. JAO Prep: FAA OR ICP ACID DIGESTION Para SILVER VOLATILE ORGANICS SW846- Analyst: T. WIEGAND ACETONE ACROLEIN ACRYLONITRILE BENZENE BROMODICHLOROMETHANE BROMOFORM BROMOMETHANE CARBON DISULFIDE CARBON TETRACHLORIDE	Analysis Date: 05-NOV-92 Instr OF AQUEOUS SAMPLES SW846-3005 P nmeter 8240 Analysis Date: 03-NOV-92 Instr	BDL wment: ICP 130.4.0 Result BDL wment: GC/MS VOA Result 52 BDL BDL BDL BDL BDL BDL BDL BD	0.0050 mg/L Test: M130.3.0 Det. Limit Units 0.010 mg/L Test: 0510.3.0 Det. Limit Units 20 ug/L 50 ug/L
SELENIUM SILVER ICP SW846-6010 Analyst: M. JAO Prep: FAA OR ICP ACID DIGESTION Para SILVER VOLATILE ORGANICS SW846- Analyst: T. WIEGAND ACETONE ACROLEIN ACRYLONITRILE BENZENE BROMODICHLOROMETHANE BROMOFORM BROMOMETHANE CARBON DISULFIDE CARBON TETRACHLORIDE CHLOROBENZENE	Analysis Date: 05-NOV-92 Instr OF AQUEOUS SAMPLES SW846-3005 P nmeter 8240 Analysis Date: 03-NOV-92 Instr	BDL Result BDL Ument: GC/MS VOA Result 52 BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL	0.0050 mg/L Test: M130.3.0 Det. Limit Units 0.010 mg/L Test: 0510.3.0 Det. Limit Units 20 ug/L 50 ug/L
SELENIUM SILVER ICP SW846-6010 Analyst: M. JAO A Prep: FAA OR ICP ACID DIGESTION SILVER VOLATILE ORGANICS SW846- Analyst: T. WIEGAND A Para ACETONE ACROLEIN ACRYLONITRILE BENZENE BROMODICHLOROMETHANE BROMOFORM BROMOMETHANE CARBON DISULFIDE CARBON TETRACHLORIDE CHLOROBENZENE CHLOROETHANE	Analysis Date: 05-NOV-92 Instr OF AQUEOUS SAMPLES SW846-3005 P nmeter 8240 Analysis Date: 03-NOV-92 Instr	BDL wment: ICP 130.4.0 Result BDL wment: GC/MS VOA Result 52 BDL BDL BDL BDL BDL BDL BDL BD	0.0050 mg/L Test: M130.3.0 Det. Limit Units 0.010 mg/L Test: 0510.3.0 Det. Limit Units 20 ug/L 50 ug/L 10 ug/L 50 ug/L 10 ug/L
SELENIUM SILVER ICP SW846-6010 Analyst: M. JAO A Prep: FAA OR ICP ACID DIGESTION SILVER VOLATILE ORGANICS SW846- Analyst: T. WIEGAND A Para ACETONE ACROLEIN ACRYLONITRILE BENZENE BROMODICHLOROMETHANE BROMOFORM BROMOMETHANE CARBON DISULFIDE CARBON TETRACHLORIDE CHLOROBENZENE CHLOROFORM CHLOROFORM	Analysis Date: 05-NOV-92 Instr OF AQUEOUS SAMPLES SW846-3005 P nmeter 8240 Analysis Date: 03-NOV-92 Instr	BDL wment: ICP 130.4.0 Result BDL wment:: GC/MS VOA Result 52 BDL BDL BDL BDL BDL BDL BDL BD	0.0050 mg/L
SELENIUM SILVER ICP SW846-6010 Analyst: M. JAO Prep: FAA OR ICP ACID DIGESTION Para SILVER VOLATILE ORGANICS SW846- Analyst: T. WIEGAND ACETONE ACROLEIN ACRYLONITRILE BENZENE BROMODICHLOROMETHANE BROMOFORM BROMOMETHANE CARBON DISULFIDE CARBON TETRACHLORIDE CHLOROBENZENE CHLOROFORM CHLOROMETHANE CHLOROFORM CHLOROMETHANE	Analysis Date: 05-NOV-92 Instr OF AQUEOUS SAMPLES SW846-3005 P nmeter 8240 Analysis Date: 03-NOV-92 Instr	BDL wment: ICP 130.4.0 Result BDL Result 52 BDL BDL BDL BDL BDL BDL BDL BD	0.0050 mg/L
SILVER ICP SW846-6010 Analyst: M. JAO Prep: FAA OR ICP ACID DIGESTION SILVER VOLATILE ORGANICS SW846- Analyst: T. WIEGAND ACETONE ACROLEIN ACRYLONITRILE BROMODICHLOROMETHANE BROMOMETHANE CARBON DISULFIDE CARBON TETRACHLORIDE CHLOROBENZENE CHLOROFORM CHLOROFORM CHLOROMETHANE IBROMOCHLOROMETHANE	Analysis Date: 05-NOV-92 Instr OF AQUEOUS SAMPLES SW846-3005 P nmeter 8240 Analysis Date: 03-NOV-92 Instr	BDL wment: ICP 130.4.0 Result BDL wment: GC/MS VOA Result 52 BDL BDL BDL BDL BDL BDL BDL BD	0.0050 mg/L
SILVER ICP SW846-6010 Analyst: M. JAO Prep: FAA OR ICP ACID DIGESTION SILVER VOLATILE ORGANICS SW846- ANALYST: T. WIEGAND ACETONE ACROLEIN ACRYLONITRILE BROMODICHLOROMETHANE BROMOMETHANE CARBON DISULFIDE CARBON TETRACHLORIDE CHLOROBENZENE CHLOROFORM CHLOROFORM CHLOROMETHANE IBROMOCHLOROMETHANE IBROMOCHLOROMETHANE IBROMOCHLOROMETHANE IS-1,3-DICHLOROPROPENE	Analysis Date: 05-NOV-92 Instr OF AQUEOUS SAMPLES SW846-3005 P nmeter 8240 Analysis Date: 03-NOV-92 Instr	BDL Winent: ICP 130.4.0 Result BDL Whent: GC/MS VOA Result 52 BDL BDL BDL BDL BDL BDL BDL BD	Det. Limit
SELENIUM SILVER ICP SW846-6010 Analyst: M. JAO Prep: FAA OR ICP ACID DIGESTION Para SILVER VOLATILE ORGANICS SW846- Analyst: T. WIEGAND ACCETONE ACCROLEIN ACCRYLONITRILE BROMODICHLOROMETHANE BROMOFORM BROMOMETHANE CARBON DISULFIDE CHLOROBENZENE CHLOROBENZENE CHLOROFORM CHLOROMETHANE CHLOROFORM CHLOROMETHANE IBROMOCHLOROMETHANE IBROMOCHLOROMETHANE	Analysis Date: 05-NOV-92 Instr OF AQUEOUS SAMPLES SW846-3005 P nmeter 8240 Analysis Date: 03-NOV-92 Instr	BDL wment: ICP 130.4.0 Result BDL wment: GC/MS VOA Result 52 BDL BDL BDL BDL BDL BDL BDL BD	0.0050 mg/L

HERITAGE LABORATORIES, INC.

Parameter	Result	Det. Limit	Units
1,2-DICHLOROETHANE	BDL	5	ug/L
,1-DICHLOROETHENE	-BDL	5	ug/L
2-DICHLOROPROPANE	BDL	5	ug/L
c THY L BENZENE	BDL	5	ug/L
∟THYLBENZENE FLUOROTRICHLOROMETHANE	BDL	5	ug/L
2-HEXANONE	BDL	10	ug/L
I METHYLENE CHLORIDE	BDL	5	ug/L
METHYL ETHYL KETONE	BDL	10	ug/L
	BDL	10	ug/L
STYRENE	BDL		ug/L
1,1,2,2-TETRACHLOROETHANE	BDL	j 5	ug/L
TETRACHLOROETHENE	BDL	5	ug/L
TETRAHYDROFURAN	BDL	25	ug/L
TOLUENE	BDL	5	ug/L
1,2-DICHLOROETHENE (TOTAL)	BDL	5	ug/L
TRANS-1,3-DICHLOROPROPENE	BDL	5	ug/L
1,1,1-TRICHLOROETHANE	BDL	5 5	ug/L
1,1,2-TRICHLOROETHANE	BDL	5	ug/L
TRICHLOROETHENE	BDL	1	ug/L
VINYL ACETATE	BDL	10	ug/L
'VINYL CHLORIDE	BDL	10	ug/L
XYLENE (TOTAL)	BDL	5	ug/L
Property Services			
SURROGATE RECOVERY			···· ··· , ·
DICHLOROETHANE-D4	106		% Rec
TOLUENE-D8	110		% Rec
ROMOFLUOROBENZENE	106	}.	% Rec
AMPLE PH = 7		<u> </u>	, ,, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
AIR CE CO : 7			

GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION Analysi: N. ROHADFOX Analysis Date: 28-OCT-92	SW846-3510	Test: P233.4	.0
Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	1000		mL
FINAL VOLUME	1.0		mL

Parameter	Result	Det. Limit	Units
CENAPHTHENE	BDL	10	ug/L _
CENAPHTHYLENE	BDL	10	ug/L
NTHRACENE	BDL	10	ug/L
ENZ(A)ANTHRACENE	BDL	10	ug/L
BENZÒ(Á)PYRENE	BDL	10	ug/L
BENZO(B)FLUORANTHENE	BDL	10	ug/L
BENZO(G,H,I)PERYLENE	BDL	10	ug/L
BENZO(K)FLUÓRANTHENE	BDL	10	ug/L
BENZYL ALCOHOL	BDL	10	ug/L
BENZYLBUTYLPHTHALATE	BDL	10	ug/L
BIS(2-CHLOROETHOXY)METHANE	BDL	10	ug/L
BIS(2-CHLOROETHYL)ETHER	BDL	10	ug/L
IS(2-CHLOROISOPROPYL)ETHER	BDL	10	ug/L
IS(2-ETHYLHEXYL)PHTHALATE	BDL	10	ug/L
1-BROMOPHENYLPHENYLETHER	BDL	10	ug/L
CARBAZOLE	BDL	10	ug/L

Parameter	Result	Det. Limit	Units
A CHI ODGANTI THE	BDL	10	ug/L
2_CHLODONADHTHAI ENF	BDL	10	ug/L
-CHI OROPHENYI PHENYI ETHER	BDL	10	ug/L
-CHLOROPHENYLPHENYLETHER CHRYSENE DIBENZ(A,H)ANTHRACENE DIBENZOFURAN 1,2-DICHLOROBENZENE 1,3-DICHLOROBENZENE	BDL	10	ug/L
DIBEN7(A.H)ANTHRACENE	RNI	10	ug/L
DIBENZOFURAN	BDL	10	ug/L
1.2-DICHI OROBENZENE	RNI	10	ug/L
1.3-DTCHLOROBENZENE	BDL	10	ug/L
1,4-DICHLOROBENZENE	BDL	10	ug/L
3,3'-DICHLOROBENZIDINE	BDL	20	ug/L
DIETHYLPHTHALATE	BDL	10	ug/L
DIMETHY DUTUM ATE	RDI	10	ug/L
DI-N-BUTYI PHTHALATE	BDL	10	ug/L
DINITROBENZENES	BOL	50	ug/L
2.4-DINITROTOLUENE	BDI	10	ug/L
2.6-DINITROTOLUENE	BDL	10	ug/L
DI-N-OCTYL PHTHALATE	BDL	10	ug/L
FLUORANTHENE	BDL	10	ug/L
FLUORENE	BDL	10	ug/L
DI-N-BUTYLPHTHALATE DINITROBENZENES 2,4-DINITROTOLUENE 2,6-DINITROTOLUENE DI-N-OCTYLPHTHALATE FLUORANTHENE FLUORENE HEXACHLOROBENZENE HEXACHLOROBUTADIENE HEXACHLOROCYCLOPENTADIENE HEXACHLOROETHANE	BDL BDL	10	ug/L
HEXACHLOROBUTADIENE	BDL	10	ug/L
HEXACHLOROCYCL OPENTAD LENE	BDL	10	ug/L
HEXACHLOROFTHANE	BDL	10	ug/L
HEXACHLOROETHANE INDENO(1,2,3-CD)PYRENE	BDL BDL BDI	10	ug/L
ISOPHORONE	BDL	10	ug/L
O METUVINIA DUTUALENE	PDI	10	ug/L
NAPHTHALENE	BDL	10	ug/L
-NITROANILINE	BDL BDL	50	ug/L
NAPHTHALENE -NITROANILINE -NITROANILINE 4-NITROANILINE NITROBENZENE	BDL	50	ug/L
r 4-NITROANILINE	BDL	50	ug/L
NITROBENZENE	BDL	10	ug/L
NITROBENZENE N-NITROSO-DIPHENYLAMINE	BDL	10	ug/L
N-NITROSO-DI-N-PROPYLAMINE	BDL	10	ug/L
PHENANTHRENE	BDL	10	ug/L
2-PICOLINE	BDL	50	ug/L
PYRENE	BDL.	10	ug/L
PYRIDINE	BDL	50	ug/L
TETRACHLOROBENZENES	BDL	10	ug/L
TOLUENEDIAMINE	BDL	50	
1,2,4-TRICHLOROBENZENE BENZOIC ACID	BDL	10	
BENZOIC ACID	BDL	. 50	
4-CHLORO-3-METHYLPHENOL	BDL	10	
2-CHLOROPHENOL	BDL	10	
2,4-DICHLOROPHENOL	BDL	10	ug/L
2,4-DIMETHYLPHENOL	BDL	10	ug/L
4,6-DINITRO-2-METHYLPHENOL	BDL	50	ug/L
2,4-DINITROPHENOL	BDL	50	ug/L
2-METHYLPHENOL	BDL	10	, , ,
4-METHYLPHENOL	BDL	10	ug/L
2-NITROPHENOL	BDL	10	U -
4-NITROPHENOL	BDL	50	ug/L
PENTACHLOROPHENOL	BDL	50	, J.
¹ PHENOL	BDL	10	ug/L
TETRACHLOROPHENOL	BDL	10	
2,4,5-TRICHLOROPHENOL	BDL	50	ug/L
2,4,6-TRICHLOROPHENOL	BDL	10	ug/L
1 •		1	

HERITAGE LABORATORIES, INC.

Lab Sample ID: A265472

Parameter SURROGATE RECOVERY	Result	Det. Limit	Units
FLUOROPHENOL HENOL DE	30		% Rec
HENOL-D5 NITROBENZENE-D5 12-FLUOROBIPHENYL	1.92	·· ····· · · · · · · · · · · · · · ·	% Rec % Rec
2,4,6-TRIBROMOPHENOL TERPHENYL-D14	33	Water State of the	% Rec % Rec

Sample Comments

BDL Below Detection Limit

Sample chain of custody number 15990.

IDEM Drinking Water Certification Number C-49-01 This Certificate shall not be reproduced, except in full, without the written approval of the lab.

Additional copies of this report sent to: JOE RITCHIE, HERITAGE REMEDIATION/ENGINEERING, INC. 5656 OPPORTUNITY DRIVE, TOLEDO, OH 43612



Received Project Lab ID Service Location 27-0CT-92 1871 A265473 HERITAGE LABORATORIES, INC. Complete PO Number 901 W. MORRIS ST. _NDIANAPOLIS, IN 46231 04-NOV-92 29-1463 (317)243-8305 Sampled Printed 06-NOV-92 22-0CT-92

Report To

Bill To

JEFF STEVENS
HERITAGE REMEDIATION/ENGINEERING, INC
5656 OPPORTUNITY DRIVE
TOLEDO, OH 43612

STEVE SMITH
HERITAGE REMEDIATION/ENGINEERING, INC.
5656 OPPURTUNITY DRIVE
TOLEDO, OH 43612

Sample Description

SAMPLE ID: 10225

DESCRIPTION: TRIP BLANK PROJECT: DUPONT TOLEDO, OH

HRE JOB NO.: 62026 PROJECT NAME PROJECT NUMBER

SAMPLE DESCRIPTION

VOLATILE ORGANICS SW846-8240 Analyst: T. WIEGAND Analysis Date: 03-NOV-92 Instrument: GC/MS VOA Test: 0510.3.0 Parameter Result Det. Limit Units **BDL** ETONE 20 ug/L 50 ACROLEIN BDL uq/L ACRYLONITRILE BDL 70 ug/L BDL 5 BENZENE uq/L BROMODICHLOROMETHANE **BDL** 5 ug/L BDL 5 BROMOFORM uq/L **BROMOMETHANE BDL** 10 ug/L CARBON DISULFIDE BDL 5 uq/L CARBON TETRACHLORIDE **BDL** 5 uq/L CHLOROBENZENE BDL ug/L CHLOROETHANE BDL 10 uq/L CHLOROFORM BDL 5 ug/L CHLOROMETHANE BDL 10 ug/L DIBROMOCHLOROMETHANE BDL ug/L CIS-1,3-DICHLOROPROPENE **BDL** ug/L DICHLORODIFLUOROMETHANE BDL ug/L 1,1-DICHLOROETHANE **BDL** uq/L 1,2-DICHLOROETHANE BDL ug/L 1.1-DICHLOROETHENE BDL ug/L 1.2-DICHLOROPROPANE BDL uq/L **ETHYLBENZENE BDL** ug/L FLUOROTRICHLOROMETHANE ug/L BDL 2-HEXANONE **BDL** ug/L 10 METHYLENE CHLORIDE BDL 5 ug/L METHYL ETHYL KETONE BDL 10 uq/L -METHYL-2-PENTANONE BDL 10 ug/L YRENE BDL 5 uq/L 1,1,2,2-TETRACHLOROETHANE 5 BDL ug/L **BDL** TETRACHLOROETHENE ua/L

Page 1 (

1 (continued on next page)

HERITAGE LABORATORIES, INC.

Lab Sample ID: A265473

Parameter	Result	Det. Limit	Units
retrahydrofuran	BDL	25	ug/L
COLUENE	BBDL (III) HEAL FEATURE III III III	5	ug/L
2-DICHLOROETHENE (TOTAL)	BDL	5	ug/L
MANS-1,3-DICHLOROPROPENE	BDL	5	ug/L
1,1,1-TRICHLOROETHANE	BDL	5	ug/L
1,1,2-TRICHLOROETHANE	BDL	5	ug/L
TRICHLOROETHENE	BDL	5	ug/L
/INYL ACETATE	BDL	10	ug/L
/INYL CHLORIDE	BDL	10	ug/L
XYLENE (TOTAL)	BDL	5	ug/L
· · · · · · · · · · · · · · · · · · ·			
SURROGATE RECOVERY			
	<u>.</u>		
	106		% Rec
TOLUENE-D8	109		% Rec
<u>3ROMOFLUOROBENZENE</u>	107		% Rec

Sample Comments

3DL Below Detection Limit

Sample chain of custody number 15990.

IDEM Drinking Water Certification Number C-49-01 This Certificate shall not be reproduced, except in full, vithout the written approval of the lab.

| Additional copies of this report sent to: E RITCHIE, HERITAGE REMEDIATION/ENGINEERING, INC. 56 OPPORTUNITY DRIVE, TOLEDO, OH 43612

Hilluson

EMS HEHITAGE BORATORIES, INC. 4132 POMPANO ROAD CHARLOTTE, N.C. 28216 (704) 393-1853 CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST FORM

Co Name:	æ \\	, 			Anol	yses Rec	a rectori.			Report To:	
Co. Name: Diport Admotive Finisher Jud	62026	.	{	(N	nte special	yses nec detection li	imits or metho	ds)	Co:	. isport to.	
Project Name: BCRA Tank Clisure]		T	一番人	17			Add:		
Project Name: BCRA Tank Clesure Quote No.: PO No.: 29-	1463	•		0	14	4					
ENVIRONMENTAL PROGRAM:		S Sec		- 8270	2 40 KI	10 (GEA)			Attn: Soc	Ritchey 377 - 9886	-
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APPENDIX II

WASTE MANIFESTS



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Public reporting durge 10. This patient in of intrination is estimated to iverage. J7 minutes for generators, 15 minutes for transporters and 10 minutes for treatment, storage, and disposal facilities. This includes time for reveiwing instructions, gathering data, and completing and reviewing the form. Send comments regarding the burden astimate, including suggestions for reducing this burden to Chief, information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401. M. Street SW., Washington DC 20460, and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington DC 20503.

SID NUMBER MUST BE SHOWN ON ALL FREIGHT BILLS AND CORRESPONDENCE

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		douget, Washington DC 20303	Number		SID-SID-SID-SID-			
ea	see print or type. (Form designed for use on elite (12-pitch) typewriter.) LINICOPM HAZARDO: IS 1. Generator's US EPA ID		nent No	2. Pa	orm Approved O			
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	WASTE MANIFEST 0 H D 0 0 5 0 4 3. Generator's Name and Mailing Address	1 8 4 3 9 2 1 9		l of	te Manifest Do			
	E.I. DuPont de Nemours & Co., Inc.			A. Jia	te Mannest Do	cument	Mumber	
	1930 Tremainsville Rd.			S C4-	4-6	10		
	Toledo, Ohio 43613			D. 31a	te Generator's	iD		
	4. Generator's Phone (419) 478-1211						 -	
l	5. Transporter 1 Company Name	6. US EPA ID Number			te Transporter			
1	Metropolitan Environmental, Inc.	<u> </u>	3 9 7	D. Tra	nsporter's Pho	ne 419	<u>-586-663</u>	8
l	7. Transporter 2 Company Name	8. US EPA ID Number		E. Sta	te Transporter	's ID		
			· · ·		nsporter's Pho			
	,	10. US EPA ID Number		G. Sta	ite Facility's ID			
	LaFarge/Systech Corp.							
	11397 County Rd. 176		1		cility's Phone			
	Paulding, Ohio 45879	OHD005048			19-399-48			
1	11. US DOT Description iIncluding Proper Shipping Name Haz	ard Class, and ID Number:	12. Conta	iners	13. Total	14. Unit	l.	
G E			No.	Type	Quantity	Wt/Vol	Waste N	
N	a. HM RO Waste Flammable Liquid n.o.s.				5500	6	D001, D0	
E R	R (Xylene, Methyl Ethyl Ketone) UN 1993 (D001, D005, D007, D008)				26//	م ا	D007, D	800
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	J. Additional Descriptions for Materials Listed Above			к. на	ndling Codes f	or waste	S LISTED ADOV	e
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	15 Casaid Mandia Instructions and Additional Information			L		(Bail C	argo Tank, Po	rtable
	15. Special Handling Instructions and Additional Information				Ì		Freight Contain	
	ERG #27				\ <u>x</u>	Placarde	ed Flammab	le
	24-hour 419-478-1211				[-		1,000 lbs. or l	Placard
1					,		Provided	
	16. GENERATOR'S CERTIFICATION: I hereby declare that the c							
	proper shipping name and are classified, packed, marked, and labe to applicable international and national governmental regulation		condition to	ortranso	port by highway a	cording		
	If I am a large quantity generator I certify that I have a progression have determined to be economically practicable and I have selected							
	me which minimizes the present and future threat to human health effort to minimize my waste generation and select the best wast	and the environment OR if I am a sma	all quantity g	enerato	r. I have made a g		Date	٠.,
	Printed/Typed Name	Signature/	o me and w	1	311 B1101G.	7	100	2 1/0
1	Denise Trabbic-Clement	11/2	~ J	1.1	k: (0	2 .7	41 0 11 6	حـونـ
Ŧ	17 Transporter 1 Acknowledgement of Receipt of Materials	- A similar		747		114	Date	1 ===
RANNP	Printed/Typed Name	Signature	11				Month Day	Year
N	1 ROY KODENBERGER		[1/0126	190
ē	18. Transporter 2 Acknowledgement of Receipt of Materials	The state of the s	ency	<u> </u>			Date	<u>'''`</u>
Ř	Printed/Typed Name	Signature					Month Day	Year
ORTER		3.3.					1 - 1	} .
	19. Discrepancy Indication Space				_			
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C	,							
L	20. Facility Owner or Operator; Certification of receipt of ha	zardous materials covered by	this manif	est exe	cept as noted i	n Item 1	9.	
T						·	Date	.
Ÿ		Signature					Month Day	Year
		t.						



Department of Pollution Control and Ecology P. O. Box 8913 Little Rock, Arkansas 72219-8913 Telephone 501-562-7444

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Form Approved. OMB No. 2050-0039. Expires 9-30-92 please print or type; (Form designed for use on elite (12-pitch) typewriter.) Information in the shaded areas is not UNIFORM HAZARDOUS required by Federal law OHD 8 0 5 0 4 1 8 4 3 9 12 12 11 10 WASTE MANIFEST 1 of 1 3. Generator's Name and Mailing Address A. State Manifest Document Number Attn: DeniseTrabbic-Clement 1 E.I. Du Pont De Nemours & Co. 43613 OH 1930 Tremainsville Road Toledo 4. Generator's Phone (419-478-121) US EPA ID Number C. State Transporter's ID 5. Transporter 1 Company Nam D. Transporter's Phone 10 H ID 19 18 17 10 12 11 10 12 Morrow Bulk Commodities Inc. F. State Transporter's ID 7. Transporter 2 Company Name F. Transporter's Phone 9. Designated Facility Name and Site Address G. State Facility's ID US EPA ID Numbe Rineco 1007 Vulcan Rd. - Haskeli H. Facility's Phone 501/778-9089 A, R, D 9 8 1 0 5 7, 8, 7, 0 Benton, AR, 72015 13. Total 11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number) I. Waste No. Quantity Wt/Vo $_{\mathbf{P}}\mathcal{D}$ Waste Flammable Liquid, N.O.S. (Toluene / N-Butyl Alcohol) D001_D005_D007_D008 UN1993 **PGIII** RO (D007, D008) 3 D035_P003_P005 D001, D005 Hazardous Waste Solid, n.o.s. D007, D008 ORM-E NA 9189 D035 F003 F005 J. Additional Descriptions for Materials Listed Above K. Handling Codes for Wastes Listed Abov a. 9209-4463 ERG#27 (Paint & Paint Contamintated) EMERGENCY RESPONSE INFORMATION: b. 9210-5925 ERG#31 (Wrangler) DeniseTrabbic-Clement /Chemtrec 419-478-1211 800-424-930b if no alternate TSDF, return to generator 15. Special Handling Instructions and Additional Information Placcard Flammable GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and Arkansas state regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volumn and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford. Printed/Typed Name Month Day Year Denise Trabbic-Clement 2392 17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name ignature Month Dav Year John teu 18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name Dav Month Year 19. Discrepancy Indication Space 20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19 Month Printed/Typed Nan Day FPA Form 8700-22 (Rev. 9-88) Previous edition is obsolete.

IOTICE: THE ORIGINAL AND NOT LESS THAN TWO (2) COPIES MUST MOVE WITH THE HAZARDOUS WASTE SHIPMENT, ONCE DELIVERED, THE TREAT-LIENT/STORAGE/DISPOSAL FACILITY MUST RETURN THIS ORIGINAL COPY TO THE GENERATOR.

EMPLY LEAK FIRE EXPOSURE OR ACCIDENT CALL CHEMTREC - DAY OR NIGHT 800-424-8300 (TOLL FREE) WASHINGTON D.C. 483-7616 BUTSIDE CONTINENTAL USA. (202) 483-7616

Public reporting burden for this collection of information is estimated to average: 37 minutes for generators, 15 minutes for transporters, and 10 minutes for treatment, storage and disposal facilities. This includes time for reveiwing instructions, gathering data, and completing and reviewing the form. Send comments regarding the burden estimate, including suggestions for reducing this burden to Chief, Information Policy Branch, PM-223. U.S. Environmental Protection Agency, 401 M Street SW. Washington DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington DC 20503.

SID NUMBER MUST BE SHOWN ON ALL FREIGHT BILLS AND CORRESPONDENCE

| Shipment | book | Identification | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipment | Shipmen

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		3. Generator's Name and Mailing Address			A. Sta	ate Manifest	Docun	nent f	lumber	
ı		E.I. DuPont de Nemours & Co., Inc.					_			
l		1930 Tremainsville Rd. Toledo, Ohio 43613 4. Generator's Phone (419) 478-1211			B. Sta	ate Generato	r's ID			
		4. Generator's Phone (419) 478-1211 5. Transporter 1 Company Name	6. US EPA ID Number	 r	C St	ate Transpor	ter's II	D ·	·······	
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ı	 	7. Transporter 2 Company Name	8. US EPA ID Number		1	ate Transpor			-200-01	220
						ansporter's P				
ı		9. Designated Facility Name and Site Address	10. US EPA ID Number	r		ate Facility's				
		LaFarge/Systech Corp.	•			•				
		11397 County Rd. 176			H. Fa	cility's Phone	 B			
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HERITAGE REMEDIATION/ENGINEERING, INC.

5656 Opportunity Drive Toledo, OH 43612 Phone: 419/478-4396 FAX: 419/478-4560

Ms. Denise Trabbic-Clement DuPont Automotive Products 1930 Tremainsville Road Toledo, OH 43613 well perfension by

November 11, 1992

Re: Tank Closure Assessment Report

1930 Tremainsville Road Toledo, OH 43613 HR/E Job No. 62027

Dear Ms. Trabbic-Clement:

On behalf of DuPont Automotive Products (DUPONT), Heritage Remediation/Engineering, Inc. (HR/E) is pleased to submit this report as referenced above. The work consisted of excavating soil from an underground storage tank (UST) excavation, documentation of site activities, environmental assessment of the UST excavation pit, and written documentation of work procedures.

This report contains all the aforementioned activities including laboratory analyses.

We trust this report is responsive to your needs. If you have any questions or concerns about this report, please feel free to contact us at your convenience at 1-800-377-9886.

Respectfully,

Heritage Remediation/Engineering, Inc.

Jeffery A. Stevens

Senior Project Manager

Attachments

UNDERGROUND STORAGE TANK TANK CLOSURE REPORT 1930 Tremainsville Toledo, Ohio 43613

PREPARED FOR:

DUPONT COMPANY 1930 Tremainsville Rd. Toledo, Ohio 43613

PREPARED BY:

HERITAGE REMEDIATION/ENGINEERING, INC. 5656 OPPORTUNITY DRIVE TOLEDO, OHIO 43612

NOVEMBER 11, 1992

TABLE OF CONTENTS

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3.0	CONCLUSIONS	3
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APPENDIX A

Diagram of Sample Locations

APPENDIX B
Laboratory Analytical Results

1.0 INTRODUCTION

DuPont Automotive Products (DUPONT) contracted Heritage Remediation/Engineering, Inc. (HR/E) to excavate and remove soil from an open, former underground storage tank (UST) excavation, and procure soil samples. The soil was excavated by HR/E personnel on October 8, 1992.

HR/E performed a sampling program to ascertain if the soil surrounding the tank pit excavation was affected by petroleum hydrocarbons. The closure activities were conducted as outlined in 40 CFR, Parts 280 and 281, Underground Storage Tanks; Technical Requirements and State Program Approval; Final Rules, and in accordance with the Division of State Fire Marshal, Bureau of Underground Storage Tank Regulations (BUSTR) sampling and closure protocols. Analytical methods utilized during confirmatory testing were selected based on those compounds and clean-up objectives as established by the regulatory agency.

The following sections describe the work procedures performed on this closure project with respect to the soil excavation and disposal, and the environmental assessment of the tank pit.

2.0 WORK PERFORMED

Mr. Scott Mills, Certified Tank Installer with HR/E, was present on site to oversee the soil excavation, field screening of soils, and collecting samples for laboratory analyses. The soil was excavated and temporarily stockpiled on visqueen and covered.

Screening of the soils from the side walls was based on visual and olfactory inspection. There were no obvious indications of contamination. The sample locations were selected and samples obtained. Samples from each location were then placed into eight ounce glass jars with latex sample gloves over the hands, which were changed between sampling.

Soil samples were put into a cooler and kept at approximately 4 degrees C. Samples were transported to Heritage Laboratories, Inc., Indianapolis, Indiana, following completion of sample collection under chain of custody protocols. Copies of the laboratory analytical results are included with this report as Appendix B. Soil samples were analyzed for the presence of total petroleum hydrocarbons (TPH) utilizing SW846 Method 9071/418.1.

Appendix B also contains the analytical results for a sample of the excavated soil. This soil was accepted for disposal at the BFI Vienna Junction Landfill, 6233 Hagman Road, Toledo, OH. The following Table 1 summarizes the soil sample analyses.

TABLE 1
TANK CAVITY
SOIL ANALYTICAL RESULTS
(mg/kg, ppm)

PARAMETER	WEST WALL	воттом	EAST WALL	REGULATORY STANDARD ¹
ТРН	33	37	26	904

Regulatory Standard - Ohio Administrative Code 1301:7-9-13

Concentrations for soil in the Tank Cavity are below the risk based clean levels of petroleum contaminated soils for TPH.

3.0 CONCLUSIONS

According to the Ohio Administrative Code Rule 1301:7-9-13 the risk based clean level of petroleum contaminated soils for TPH is 904 ppm. The levels in the tank cavity are below the risk based clean levels of petroleum contaminated soils for TPH.

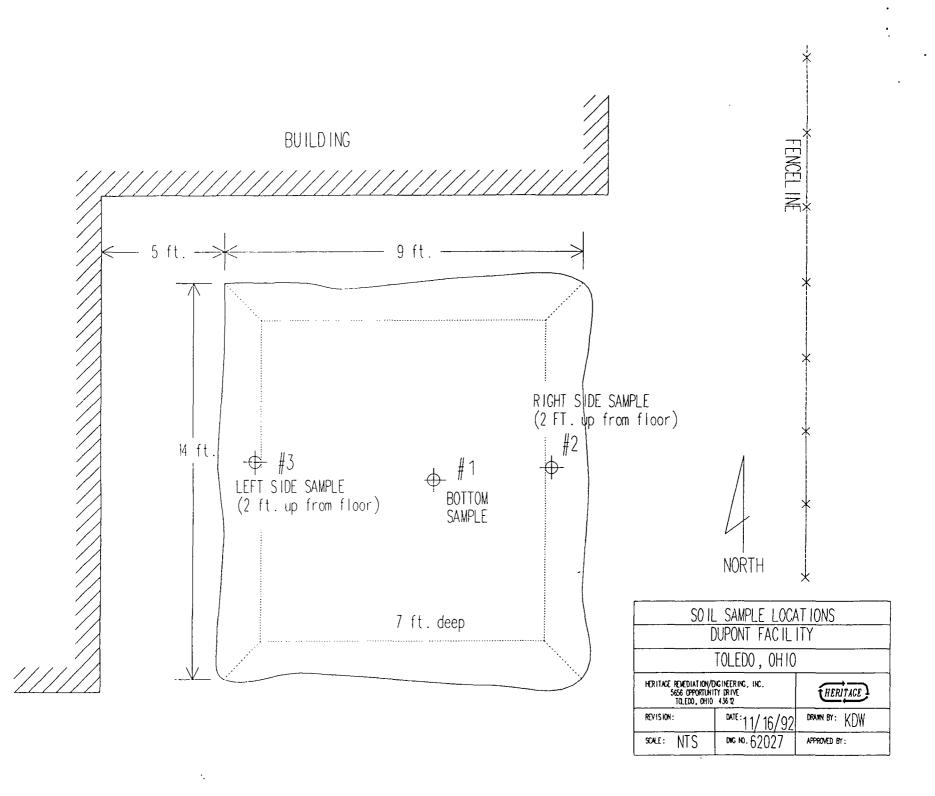
4.0 RECOMMENDATIONS

HR/E recommends no further action.

5.0 CORRECTIVE ACTIONS

Not applicable.

APPENDIX A



APPENDIX B

Service Location Received Project Lab ID HERITAGE LABORATORIES, INC. 09-0CT-92 1871 A264000 7901 W. MORRIS ST. PO Number Complete INDIANAPOLIS, IN 46231 14-0CT-92 JEFF STEVENS (317)243-8305 Printed Sampled 15-0CT-92 08-0CT-92

Report To

Bill To

JOE RITCHIE
HERITAGE REMEDIATION/ENGINEERING, INC.
5656 OPPORTUNITY DRIVE
TOLEDO, OH 43612

STEVE SMITH
HERITAGE REMEDIATION/ENGINEERING, INC.
5656 OPPURTUNITY DRIVE
TOLEDO, OH 43612

Sample Description
SAMPLE DESCRIPTION: TANK EXCAVATION - LEFT SIDE
PROJECT NAME: DUPONT AUTOMOTIVE FINISHES

PROJECT NUMBER

SOXHLET EXTRACTION FOR OIL AND GREASE SW846-9071 Analyst: S. STRUEWING Analysis Date: 13-007-92		Test: P235.9.	.0
Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	60.16		Grams
FINAL VOLUME	250		mL

TOTAL PETROLEUM HYDROCARBONS BY IR (MODIFIED EXTR Analyst: L. OSBORN Analysis Date: 13-OCT-92 Instrument Prep: SOXHLET EXTRACTION FOR OIL AND GREASE \$W846-9071 P235:9:0) Test: G518.9.	0
Parameter PETROLEUM HYDROCARBONS	Result	Det. Limit	Units
	33	10	mg/kg

Sample Comments

Sample chain of custody number 15989.844.

IDEM Drinking Water Certification Number C-49-01

Additional copies of this report sent to: JEFF STEVENS, HERITAGE REMEDIATION/ENGINEERING, INC 5656 OPPORTUNITY DRIVE, TOLEDO, OH 43612

Helewon

Service Location	Received	Project	Lab ID
HERITAGE LABORATORIES, INC.	09-0CT-92	1871	A264001
7901 W. MORRIS ST.	Complete	PO Number	
INDIANAPOLIS, IN 46231	14-0CT-92	JEFF S	TEVENS
(317)243-8305	Printed	Samp	oled
	15-0CT-92	08-0CT-	92

Report To

Bill To

JOE RITCHIE
HERITAGE REMEDIATION/ENGINEERING, INC.
5656 OPPORTUNITY DRIVE
TOLEDO, OH 43612

STEVE SMITH
HERITAGE REMEDIATION/ENGINEERING, INC.
5656 OPPURTUNITY DRIVE
TOLEDO, OH 43612

SAMPLE DESCRIPTION: TANK EXCAVATION - RIGHT SIDE PROJECT NAME: DUPONT AUTOMOTIVE FINISHES

PROJECT NUMBER

SOXHLET EXTRACTION FOR OIL AND GREASE SW846-9071 Analyst: S. STRUEWING Analysis Date: 13-OCT-92		Test: P235.9	.0
Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	60.03		Grams
FINAL VOLUME	250		l mL

TOTAL PETROLEUM HYDROCARBONS BY IR (MODIFIED EXTR Analyst: L. OSBORN Analysis Date: 13-OCT-92 Instrumer Prep: SOXHLET EXTRACTION FOR OIL AND GREASE SW846-9071 P235.9.0) Test: G518.9.	0
Parameter PETROLEUM HYDROCARBONS	Result	Det. Limit	Units
	26	10	mg/kg

Sample Comments

Sample chain of custody number 15989.844.

IDEM Drinking Water Certification Number C-49-01

Additional copies of this report sent to: JEFF STEVENS, HERITAGE REMEDIATION/ENGINEERING, INC 5656 OPPORTUNITY DRIVE, TOLEDO, OH 43612

Wellian

Service Location	Received	Project	Lab ID
HERITAGE LABORATORIES, INC.	09-0CT-92	1871	A263999
7901 W. MORRIS ST.	Complete	PO N	umber
INDIANAPOLIS, IN 46231	14-0CT-92	JEFF S	TEVENS
(317)243-8305	Printed	Samp	led
	15-0CT-92	08-0CT-92	

Report To

Bill To

JOE RITCHIE
HERITAGE REMEDIATION/ENGINEERING, INC.
5656 OPPORTUNITY DRIVE
TOLEDO, OH 43612

STEVE SMITH
HERITAGE REMEDIATION/ENGINEERING, INC.
5656 OPPURTUNITY DRIVE
TOLEDO, OH 43612

Sample Description
SAMPLE DESCRIPTION: TANK EXCAVATION - BOTTOM
PROJECT NAME: DUPONT AUTOMOTIVE FINISHES

PROJECT NUMBER

SOXHLET EXTRACTION FOR OIL AND GREASE SW846-9071 Analyst: S. STRUEWING Analysis Date: 13-0CT-92		Test: P235.9.	0
Parameter	Result	Det. Limít	Units
INITIAL WEIGHT OR VOLUME	60.02		Grams
I FINAL VOLUME	250		m l

TOTAL PETROLEUM HYDROCARBONS BY IR (MODIFIED EXTR Analyst: L. OSBORN Analysis Date: 13-OCT-92 Instrumer Prep: SOXHLET EXTRACTION FOR OIL AND GREASE \$W846-9071 p235_9.0) Test: G518.9.	O
Parameter	Result	Det. Limit	Units
PETROLEUM HYDROCARBONS	37	10	mg/kg

Sample Comments

Sample chain of custody number 15989.844.

IDEM Drinking Water Certification Number C-49-01

Additional copies of this report sent to: JEFF STEVENS, HERITAGE REMEDIATION/ENGINEERING, INC 5656 OPPORTUNITY DRIVE, TOLEDO, OH 43612

Quality Assurance Officer:

Melwor

•					
Service Location			Received	Project	Lab ID
HERITAGE LABORATOR	IES, INC.		17-SEP-92		A262231
7901 W. MORRIS ST.	·		Complete	PO NU	mber
INDIANAPOLIS, IN 4	6231		06-0CT-92	6202	27
(317)243-8305			Printed	Sampl	ed
·			07-0CT-92	16-SEP-9	2
					
Report	то		Bill To		•
JEFF STEVENS HERITAGE REM 5656 OPPORTU TOLEDO, OH 4	EDIATION/ENGINEERING, INC NITY DRIVE		REMEDIATION/ENURTUNITY DRIVE	IGINEERING,	INC.
			·- -		
SAMPLE ID: 0 SAMPLE DESCR		scription			
TOTAL SOLIDS EPA 16 Analyst: J. STOAKES	0.3 Analysis Date: 21-SEP-92			Test: G401.7	.0
	Parameter		Result	Det. Limit	Units
SOLIDS		85		0.001	Percent _
PAINT FILTER TEST S Analyst: J. WALLACE PAINT TILTER LIQUID	Analysis Date: 22-SEP-92 Parameter	0	Result	Test: G103:1	.0 Units mL
IGNITABILITY (SOLID	OS ASSESSMENT-EXPOSURE TO SPA	ARK) ASTM	D-4982B	Test: G515.5	.0
	Parameter		Result	Det. Limit	Units
IGNITABILITY		NEG			
AMBIENT TEMPERATURE		71			Degrees F
CYANIDE, TOTAL AVAI	LABLE (AUTOMATED) SW 7.3.3. Analysis Date: 25-SEP-92 Instr	Z ument: AUTO-AN		Test: 6115.3	5 - 3 - 3 - 5 - 5 - 5 - 5 - 5 - 5 - 5 -
CYANIDE	Parameter	BDL	Result	Det. Limit0.1	Units mg/kg
TOTAL AVAILABLE SUL	FIDE EXTRACTION SW 7.3.4.1 Analysis Date: 22-SEP-92			Test: P116.2	20
TAITTAL LISTOUT OF	Parameter	I	Result	Det. Limit	Units
INITIAL WEIGHT OR V	/ULUME	10			Grams
FINAL VOLUME		100	<u> </u>		<u> mL</u>
SULFIDE SW846-9030	Analysis Date: 22 SEP-92			Test: G110.4	0
Prep: TOTAL AVAILABLE SU	LFIDE EXTRACTION SW 7.3.4.1 P116.2.0				
					1

Parameter

SULFIDE

Units

mg/kg

Det. Limit

10

Result

BDL

PH S/S/S SW846-9045 Analyst: A. HILSCHER Analysis Date: 18-SEP-92		Test: G624.0.	0
Parameter	Result	Det. Limit	Units
	7.8	0.1	Std. Units

PURGE AND TRAP METHOD FOR ORGANIC ANALYTES SW846-5030	
Analyst: P. SPENCE Analysis Date: 28-SEP-92 Test: P239.1.0	

PURGEABLE AROMATICS BY GC/PID SW846-8020 Analyst: P. SPENCE Analysis Date: 28-SEP-92 Instrumer Prep: PURGE AND TRAP METHOD FOR ORGANIC ANALYTES SW846-5020 P239.1		Test: 0460.2	0
Parameter	Result	Det. Limit	Units
BENZENE	BDL	5	ug/kg
TOLUENE	BDL	5	ug/kg
ETHYL BENZENE	BDL	5	ug/kg
M/P-XYLENE	BDL	5	ug/kg
O-XYLENE	BDL	5	ug/kg

	SOXHLET EXTRACTION FOR OIL AND GREASE SW846-9071 Analyst: S. STRUEWING Analysis Date: 22-SEP-92		Test: P235.9	.0
ETHAL VOLUME	Parameter	Result	Det. Limit	Units
LETHAL MOLING	INITIAL WEIGHT OR VOLUME	60.01	ļ	Grams
FETNAL VULUITE	LETNALWAOLIMEN			was to receive weaking out

TOTAL PETROLEUM HYDROCARBONS BY IR (MODIFIED EXTR Analyst: S. STRUEWING Analysis Date: 23-SEP-92 Instrumer Prep: SOXHLET EXTRACTION FOR OIL AND GREASE SW846-9071 P235:9:0) Test: G518:9.	0
Parameter TETROL FUM HYDROCARBONS	Result 31	Det. Limit	Units mg/kg

TOX CHAR LEACHING PROCEDURE (TO Analyst: B. HAHN Analysis D	LP METALS ONLY) SW ate: 27-SEP-92	846-1311	Test: P106.1	.0
Parameter	}	Result	Det. Limit	Units
TOTAL SAMPLE WEIGHT	i	100		Grams
LIQUID FRACTION (GRAMS)				Grams
EXTRACTED SAMPLE		100		Grams
SOLIDS A. T. S. C. C. C. C. C. C. C. C. C. C. C. C. C.		100		Percent
9.5 MM SIEVE TEST				Passed
INITIAL PH		8.27		Std. Units
ADJUSTED PH		1.81		Std. Units
BUFFER SOLUTION PH		4.95		Std. Units
FINAL PH		6.31		Std. Units
VOLUME BUFFERED SOLUTION	ļ	2000		mL
VOLUME EXTRACT FILTERED	j	2000		mL
VOLUME LIQUID (ADD BACK)		0		mL
TOTAL VOLUME FILTRATE		2000		mL
AMBIENT TEMPERATURE		21		Degrees C
INITIAL TIME		2348.7		HRŠ
FINAL TIME		2364.9		HRS

FAA OR ICP ACID DIGESTION OF LEACHATE SAMPLES SW Analyst: G. MAPP Analysis Date: 29-SEP-92 Prep: TOX CHAR LEACHING PROCEDURE (TCLP METALS ONLY) SW846-1311 P		Test: P130.8.	0.
Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	100	,	mL i
FINAL WEIGHT OR VOLUME	100		mL

Lab Sample ID: A262231

TCLP BARIUM FAA (1 POINT MSA) SW846-7080

Analyst: A. STOCKBURGER Analysis Date: 01-0CT-92 Instrument: FAA

Prep: FAA OR ICP ACID DIGESTION OF LEACHATE SAMPLES SW846-3010 P130.8.0

Test: M704.5.0

Prep: TOX CHAR LEACHING PROCE	DURE (TCLP MET	ALS ONLY) SW84	66-1311 P106.1	.0			
	Corrected	Observed	Detection		Matrix Spike	'	Matrix Spike
Parameter	Result	Result	Limit	Units	True Value	Spike	% Recovery
BARIUM		BDL	2.0				
ADDITION 1		2.50		.mg/L	afi varalia) 🗯		
SAMPLE	1	0.04		- Conc	i		

MOTTHER TCLP SPIKE DILUTED OUT

SAMPLE + ADD 1

TCLP CADMIUM FAA (1 POINT MSA) SW846-7130

Analyst: A. STOCKBURGER Analysis Date: 30-SEP-92 Instrument: FAA

2:65

10

Prep: FAA OR ICP ACID DIGESTION OF LEACHATE SAMPLES SW846-3010 P130.8.0 Prep: TOX CHAR LEACHING PROCEDURE (TCLP METALS ONLY) SW846-1311 P106.1.0 Test: M708.5.0

Detection Sample + Corrected Observed Matrix Spike Matrix Spike Result Parameter Result Limit Units True Value Spike % Recovery CADMIUM 0.200 0.172 RDt RNI 0.02 mg/L ADDITION 1 0.500 mg/L SAMPLE 0.004 Conc SAMPLE + ADD 1 0.437 Conc DILUTION

TCLP CHROMIUM FAA (1 POINT MSA) SW846-7190

Analysis Date: 01-0CT-92 Instrument: FAA Analyst: A. STOCKBURGER

Prep: FAA OR 1CP ACID DIGESTION OF LEACHATE SAMPLES SW846-3010 P130.8.0 Prep: TOX CHAR LEACHING PROCEDURE (TCLP METALS ONLY) SW846-1311 P106.1.0 Test: M710.5.0

Parameter	Corrected Result	Observed Result	Detection Limit	Units	Matrix Spike True Value	Sample + Spike	Matrix Spike % Recovery
CHROMIUM .	BDL	BDL	0.05	mg/L	0.400	0.390	98
ADDITION 1		1.00		mg/L	- I		
SAMPLE + ADD 1		0.007 1.021		Conc Conc		file There Time to the control	
DILUTION	ļ	1					

TCLP LEAD FAA (1 POINT MSA) SW846-7420

Analyst: A. STOCKBURGER Analysis Date: 30-SEP-92 Instrument: FAA

Prep: FAA OR TCP ACID DIGESTION OF LEACHATE SAMPLES SW846-3010 P130.8.0

Prep: TOX CHAR LEACHING PROCEDURE (TCLP METALS ONLY) SW846-1311 P106.1.0

Test: M716.5.0

Test: M730.5.0

Parameter	Corrected Result	Observed Result	Detection Limit	Units	Matrix Spike	Sample + Spike	Matrix Spike
LEAD	BDL	BDL	0.20	mg/L	2.00	1.76	88
ADDITION 4		5.00		mg/L		la frantis en fina a la como en La como de la como en como en como en como en como en como en como en como en como en como en como en como en La como en como en como en como en como en como en como en como en como en como en como en como en como en como	TO A SEE A
	effective and a letter lead the	-0.02 4.39		Conc			
DILUTION	ł	1		<u> </u>			<u> </u>

TCLP SILVER FAA (1 POINT MSA) SW846-7760

Analyst: A. STOCKBURGER Analysis Date: 30-SEP-92 Instrument: FAA

Prep: FAA OR ICP ACID DIGESTION OF LEACHATE SAMPLES SW846-3010 P130.8.0

Prep: TOX CHAR LEACHING PROCEDURE (TCLP METALS ONLY) SW846-1311 P106.1.0

	Corrected	Observed	Detection	•	Matrix Spike	Sample +	Matrix Spike
Parameter	Result	Result	Limit	Units	True Value	Spike	% Recovery
SILVER	BDL	BDL	0.04	mg/L	0.200	0.195	97.5

3

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HERITAGE LABORATORIES, INC.

Lab Sample ID: A262231

	Parameter	Corrected Result	Observed Result	Detection Limit	Units	Matrix Spike True Value	Sample + Spike	Matrix Spike % Recovery
,	ODITION 1		A. 004					
	CHITTON	Personal and the second of the second	0.484					

GFAA ACID DIGESTION OF LEACHATE SAMPLES SW846-302 Analyst: G. MAPP Analysis Date: 29-SEP-92 Prep: TOX CHAR LEACHING PROCEDURE (TCLP METALS ONLY) SW846-1311 P1		Test: P130.9.	0
Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
-11-1-1-10	4		

TCLP ARSENIC GFAA (1 P Analyst: M. BAUER Prep: GFAA ACID DIGESTION OF Prep: TOX CHAR LEACHING PROCE	Analysis Dat LEACHATE SAMPI	te: 30-SEP-92 LES SW846-3020	Instrument: G P130.9.0			Test: M703.6	.D
Parameter	Corrected Result	Observed Result	Detection Limit	Units	Matrix Spike True Value	Sample + Spike	Matrix Spike % Recovery
ARSENIC		BDL	0.005	mg/L	0.0250	0.0273	109
ADDITION 1	:	0.010		mg/L			
SAMPLE + ADD 1		0.0012 0.010		Conc Conc			
NO CORRECTED VALUE DUE	TO SPIKE	RECOVERY	 BEING >100%		1		

	Corrected	0bserved	Detection		Matrix Spike	Sample +	Matrix
Analyst: S. O'NEAL Prep: GFAA ACID DIGESTION OF Prep: TOX CHAR LEACHING PROCE	LEACHATE SAMPL	ES SW846-3020	P130.9.0			1est, #120.0.	9
TCLP SELENIUM GFAA (1	(00000) . (000000000 100000 1007.0	\$500 (A. 1960) (C 1977 - 1999 - 12 CC 2 TO	EAA		Test: M728.6.	0

Parameter	Corrected Result	Observed Result	Detection Limit	Units	Matrix Spike True Value	Sample + Spike	Matrix Spike % Recovery
SELENIUM	BDL	BDL	0.0050	mg/L	0.0250	0.0205	82
ADDITION 1		0.010		mg/L	11.11.11		
SAMPLE	[0.000	1	Conc			,
SAMPLE + ADD 1		0.0086	1	Conc	191 %		
DILUTION		_ 1			<u> </u>		l

MERCURY CVAA ACID DIGESTION OF LEACHATE SAM Analyst: J. VANSKYOCK Analysis Date: 29-SEP-92 Prep: TOX CHAR LEACHING PROCEDURE (TCLP METALS ONLY) SW840	•	Test: P131.9). <u>.</u> 0
Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	10		mL .
FINALAVOLUME	100		mL

TCLP MERCURY CVAA (1 Analyst: J. VANSKYOCK Prep: MERCURY CVAA ACID DIG Prep: TOX CHAR LEACHING PRO	Analysis Dat STION OF LEACH	e: 30-SEP-92 ATE SAMPLES SW	Instrument: C\ 346-7470 P131.9	-0		Test: M720.6	.0
Parameter	Corrected Result	Observed Result	Detection Limit	Units	Matrix Spike True Value	Sample + Spike	Matrix Spike % Recovery
MERCURY	BDL	BDL	0.005	mg/L	0.0200	0.0210	105
ADDITION 1		0.00100		mg/L		·	
SAMPLE + ADD 1		0.000 0.00103		Conc Conc			
DILUTION		1 _					<u></u>

NO CORRECTED VALUE NEEDED > 100 SPIKE RECOVERY

RO HEADSPACE EXTRACTION (TCLP) SW846-1311 Analyst: W. WHITE Analysis Date: 21-SEP-92		Test: P108.1	.0
Parameter	Result	Det. Limit	Units
TOTAL SAMPLE WEIGHT	25.0		Grams
LIQUID PORTION	0.00		mL
LIQUID FRACTION (GRAMS)	0.00		Grams
EXTRACTED SAMPLE	25.0		Grams
PHASE ONE VOLUME (REP 0)	393.7		mL
PHASE TWO VOLUME (REP. 1)	0,00		mL

Parameter	Corrected Result	Observed Result	Detection Limit	Units	Matrix Spike True Value	Sample + Spike	Matrix Spike % Recovery
BENZENE	BDL	BDL	50	ug/L	500	430	86
CARBON: TETRACHLORIDE	BOL	BDL	50	ug/L	500	450	90
CHLOROBENZENE	BDL	BDL	50	ug/L	500	440	88
CHLOROFORM:	BDL	BDL .	50	ug/L	500	400	80
1,2-DICHLOROETHANE	BDL	BDL	50	ug/L	500	470	94
1,1-DICHLOROETHYLENE	BOL	BDL	50	ug/L	500	500	100
METHYL ETHYL KETONE	BDL	BDL	100	ug/L	500	580	116
TETRACHLOROETHYLENE	BOL	BOL	50	ug/L	500	420	84
TRICHLOROETHYLENE		BDL	50	ug/L	500	430	86
VINYL CHLORIDE		BOL	100	n8/[500	560	112
RROGATE RECOVERY					:.		
DICHLOROETHANE-D4		101		% Rec			
TOLUENE-D8		103	1	% Rec			
BROMOFLUOROBENZENE		103		% Rec	}		

Sample Comments

BDL Below Detection Limit

NEG Negative

Sample chain of custody number 15985.

IDEM Drinking Water Certification Number C-49-01

Quality Assurance Officer: HBwch



State of Ohio Environmental Protection Agency

P.O. Box 1049, 1800 WaterMark Dr. Columbus, Ohio 43266-0149 (614) 644-3020 Fax (614) 644-2329

Richard F. Celeste Governor

CLOSURE PLAN APPROVAL

CERTIFIED MAIL

December 13, 1990

RE: CLOSURE PLAN E.I. DuPont de Nemours

OHD 005 041 843

Mr. Anthony Parchomenko E.I. DuPont de Nemours 1930 Tremainsville Road Toledo, Ohio 43613

Dear Mr. Parchomenko

On August 2, 1989, E.I. DuPont de Nemours submitted to Ohio EPA a closure plan for hazardous waste storage tanks 1-13 and 15 located at 1930 Tremainsville Road, Toledo, Ohio. Revisions to the closure plan were received on October 2, 1990 in response to the Director's August 6, 1990 Notice of Deficiency. The closure plan was submitted pursuant to Rule 3745-66-12 of the Ohio Administrative Code (OAC) in order to demonstrate that E.I. DuPont de Nemours' proposal for closure complies with the requirements of OAC Rules 3745-66-11 and 3745-66-12.

The public was given the opportunity to submit written comments regarding the closure plan of E.I. DuPont de Nemours in accordance with OAC Rule 3745-66-12. No comments were received by Ohio EPA in this matter.

Based upon review of E.I. DuPont de Nemours' submittal and subsequent revisions, I conclude that the closure plan for the hazardous waste facility at E.I. DuPont de Nemours meets the performance standard contained in OAC Rule 3745-66-11 and complies with the pertinent parts of OAC Rule 3745-66-12.

The closure plan submitted to Ohio EPA by E.I. DuPont de Nemours is hereby approvedentify this to be a true and accurate copy of the

official document as filed in the records of the Ohio Environmental Protection Agency.

Date 12-13-90

OHIO E.P.A. ENTERED DIRECTOR'S JOURNAL Mr. Anthony Parchomenko Page Two

Notwithstanding compliance with the terms of the closure plan, the Director may, on the basis of any information that there is or has been a release of hazardous waste, hazardous constituents, or hazardous substances into the environment, issue an order pursuant to Section 3734.20 et seq of the Revised Code or Chapters 3734 or 6111 of the Revised Code requiring corrective action or such other response as deemed necessary; or initiate appropriate action; or seek any appropriate legal or equitable remedies to abate pollution or contamination or to protect public health or safety or the environment.

Nothing here shall waive the right of the Director to take action beyond the terms of the closure plan pursuant to the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.A. \$9601 et seq., as amended by the Superfund Amendments and Reauthorization Act of 1986, Pub. L. 99-499 ("CERCLA") or to take any other action pursuant to applicable Federal or State law, including but not limited to the right to issue a permit with terms and conditions requiring corrective action pursuant to Chapters 3734 or 6111 of the Revised Code; the right to seek injunctive relief, monetary penalties and punitive damages, to undertake any removal, remedial, and/or response action relating to the facility, and to seek recovery for any costs incurred by the Director in undertaking such actions.

You are notified that this action of th6535rector is final and may be appealed to the Environmental Board of Review pursuant to Section 3745.014 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. It must be filed with the Environmental Board of Review within thirty (30) days after notice of the Director's action. A copy of the appeal must be served on the Director of the Ohio Environmental Protection Agency and the Environmental Enforcement Section of the Office of the Attorney General within three (3) days of filing with the Board. An appeal may be filed with the Environmental Board of Review at the following address: Environmental Board of Review, 236 East Town Street, Room 300, Columbus, Ohio 43266-0557.

I certify this to be a true and accurate copy of the official document as filed in the records of the Ohio Environmental Protection Agency.

By: Mary Cavin Date 12-13-90

OHIO E.P.A.

DEC 13 90

ENTERED DIRECTOR'S JOURNAL

)

Mr. Anthony Parchomenko Page Three

When closure is completed, the Ohio Administrative Code Rule 3745-66-15 requires the owner or operator of a facility to submit to the Director of the Ohio EPA certification by the owner or operator and an independent, registered professional engineer that the facility has been closed in accordance with the approved closure plan. The certification by the owner or operator shall include the statement found in OAC 3745-50-42(D). These certifications should be submitted to: Ohio Environmental Protection Agency, Division of Solid and Hazardous Waste Management, Attn: Thomas Crepeau, Data Management Section, P.O. Box 1049, Columbus, Ohio 43266-0149.

Sincerely,

Richard L. Shank, Ph.D.

Director

RLS/PV/pas

cc: Paul Vandermeer, Ohio EPA, DSHWM

Lisa Pierard, USEPA-Region V Joel Morbito, USEPA - Region V Seuk W. Kang, NWDO, Ohio EPA

I certify this to be a true and accurate cony of the official document as filed in the records of the Ohio Environmental Protection Agency.

By: Mary Cavin Date 12-13-96

OHIO E.P.A.

DEC 13 90

ENTERED DIRECTOR'S JOURNAL

HAZARDOUS WASTE TANK STORAGE FACILITY PARTIAL CLOSURE PLAN

E. I. du Pont de Nemours & Co. TOLEDO APD PLANT

1930 Tremainsville Road Toledo, Ohio 43613 419-478-1211

Modified September 26, 1990

by: Anthony Parchomenko

Environmental Coordinator

DUPONT TOLEDO PLANT

HAZARDOUS WASTE STORAGE FACILITY PARTIAL CLOSURE PLAN & NOTICE

I. GENERAL

A. Facility Description and Location

- is located along Tremainsville Road at Upton Avenue and is approximately 17 acres in size, TOPOGRAPHICAL MAP IS ATTACHED. (Attachment I).

 The facility has operated since 1934 for the manufacture of various paints and finishes including high grade automotive paints, clear finishes, and intermediate resins/polymers. Plant operations include the blending of various pigments, resins/polymers, and solvents to generate a salable product meeting the required standards of each independent commercial client.
- 2. THE PLANT IS SURROUNDED BY A 6 FOOT CHAIN LINK
 FENCE, ABOVE WHICH ARE 3 ANGLED STRANDS OF BARBED
 WIRE. ALL GATES ARE LOCKED EXCEPT WHEN UNDER DIRECT
 VISUAL SURVEILLANCE BY GUARDS OR OTHER PLANT
 PERSONNEL. THE SITE IS UNDER CONTINUOUS SURVEILLANCE
 24-HOURS A DAY, 7 DAYS A WEEK BY PLANT GUARDS USING
 WALKING TOURS AND ELECTRONIC EQUIPMENT.

"NO SMOKING" SIGNS ARE APPROPRIATELY POSTED THROUGHOUT

THE PLANT, AND THE PERIMETER FENCE IS APPROPRIATELY POSTED WITH "DANGER-UNAUTHORIZED PERSONNEL KEEP OUT". IT IS THE INTENT OF E.I.DUPONT DE NEMOURS & CO. TO OPERATE THIS FACILITY AS LONG AS FEASIBLE, BARRING ANY UNFORESEEN CIRCUMSTANCES, CLOSURE OF THIS ENTIRE FACILITY IS NOT EXPECTED BEFORE THE YEAR 2010. As a result of these operations, solvents contaminated with pigments and polymer solids are generated which cannot be reused in the various products. These used solvents are defined by three distinct contaminants, resin strip solvents (a byproduct), resin wash solvents, and pigmented wash solvents. These solvents, which exhibit the same characteristics as raw materials, have been stored in and processed through the 14 tanks for treatment purposes. The resin strip solvents are generally saved and/or used as needed for their high B.t.u. value in the plant's 3 steam generating packaged boilers. The resin wash solvents are also used for fuel value or processed through the Thin Film Evaporator and reused. The pigmented wash solvents are always processed through the Thin Film Evaporator for reuse as washes for pigmented products. The still bottoms from the Thin Film Evaporator are disposed of in BULK OR drums as Hazardous Waste at an off site incinerator.

3. PRESENTLY, THE SITE HAS IN OPERATION THE FOLLOWING

HAZARDOUS WASTE MANAGEMENT UNITS:

- a. TANK #1, EXISTING FILLING FLOOR PIGMENTED DIRTY
 WASH SOLVENT ACCUMULATION TANK (D001, D005, D007,
 D008, D018, D026, D035, F003, F005).
- b. TANKS #2 THROUGH #8, FORMERLY RESIN DIRTY WASH SOLVENT ACCUMULATION AND TRANSFER TANKS TO BOILER FEED TANK. OUT OF SERVICE.
- c. TANKS #9, #10, AND #15, FORMERLY PIGMENTED DIRTY
 WASH SOLVENT HOLD AND TRANSFER TANKS TO SOLVENT
 RECOVERY. OUT OF SERVICE.
- d. TANKS #11 AND #12, FORMERLY PIGMENTED DIRTY WASH SOLVENT FEED TANKS TO SOLVENT RECOVERY. OUT OF SERVICE.
- e. TANK #13, FORMERLY RESIN DIRTY WASH SOLVENT FEED
 TANK TO BOILERS. OUT OF SERVICE.
- f. TANK #14, EXISTING PIGMENTED DIRTY WASH SOLVENT FEED TANK TO SOLVENT RECOVERY (D001, D005, D007, D008, D018, D026, D035, F003, F005).
- g. TANK #W10, EXISTING 90 DAY RESIN DIRTY WASH SOLVENT FEED TANK TO BOILERS (D001, D018, D035, F003, F005).
- h. TANK #W11, EXISTING 90 DAY STILL BOTTOMS ACCUMULATION TANK (D001, D005, D007, D008, D018, D026, D035, F003, F005).
- i. ROW F (OF FINISHED PRODUCT STORAGE PAD) PERMITTED HAZARDOUS WASTE CONTAINER STORAGE (D001, D005, D007, D008, D018, D026, D035, F003, F005).

- j. TANK #L01, EXISTING 90 DAY REMOVABLE, USED PAINT TEST SAMPLES ACCUMULATION TANK (D001, D005, D007, D008, D018, D026, D035, F003, F005).
- k. SATELLITE ACCUMULATION DRUMS, GRINDING 1B3.
 ACCUMULATION OF SCRAP PAINT AND CHEMICALLY
 CONTAMINATED SOLIDS (D001, D005, D007, D008, D018, D026, D035, F003, F005).
- 1. SATELLITE ACCUMULATION DRUMS, GRINDING 1A2.

 ACCUMULATION OF SCRAP PAINT AND CHEMICALLY

 CONTAMINATED SOLIDS (D001, D005, D007, D008, D018, D026, D035, F003, F005).
- m. SATELLITE ACCUMULATION DRUMS, MIXING 1B2.

 ACCUMULATION OF SCRAP PAINT, AND CHEMICALLY

 CONTAMINATED SOLIDS (D001, D005, D007, D008, D018, D026, D035, F003, F005).
- n. SATELLITE ACCUMULATION DRUMS, FILLING 1B1.

 ACCUMULATION OF SCRAP PAINT AND CHEMICALLY

 CONTAMINATED SOLIDS (D001, D005, D007, D008, D018, D026, D035, F003, F005).
- o. SATELLITE ACCUMULATION DRUMS, CHEMICAL 1H.

 ACCUMULATION OF SCRAP RESIN AND CHEMICALLY

 CONTAMINATED SOLIDS (D001, D018, D026, D035, F003, F005).
- P. SATELLITE ACCUMULATION DRUMS, RESIN 1J. ACCUMULATION OF SCRAP RESIN AND CHEMICALLY CONTAMINATED SOLIDS (D001, D018, D026, D035, F003, F005).

- q. SATELLITE ACCUMULATION DRUMS, RESIN 1F. ACCUMULATION OF SCRAP RESIN AND CHEMICALLY CONTAMINATED SOLIDS (D001, D018, D026, D035, F003, F005).
- 4. The intent of this closure is to replace the existing 14 hazardous waste tanks THAT ARE NOT EQUIPPED WITH SECONDARY CONTAINMENT OR LEAK DETECTION SYSTEMS AND GENERALLY ARE NOT ACCEPTABLE FOR THIS TYPE OF RETROFITING. THE 14 TANKS WILL BE REPLACED with 3 tanks which meet the Secondary Containment AND LEAK DETECTION requirements, and to replace the handling of still bottoms in drums with bulk handling operations. LAYOUT SKETCHES OF THE TANKS TO BE REMOVED ARE SHOWN IN ATTACHMENTS IV. IVA. IVB.IVC. IVD. AND IVE.

B. Applicable Regulations

- 1. THIS SITE IS OPERATING UNDER A NUMBER OF ENVIRONMENTAL PERMITS, AS LISTED:
 - a. AIR POLLUTION SOURCE PERMIT #0448010058-B001
 - b. AIR POLLUTION SOURCE PERMIT #0448010058-B002
 - c. AIR POLLUTION SOURCE PERMIT #0448010058-B003
 - d. AIR POLLUTION SOURCE PERMIT #0448010058-B004
 - e. AIR POLLUTION SOURCE PERMIT #0448010058-B005
 - f. AIR POLLUTION SOURCE PERMIT #0448010058-P001
 - g. AIR POLLUTION SOURCE PERMIT #0448010058-P002
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 - i. AIR POLLUTION SOURCE PERMIT #0448010058-P004

- j. AIR POLLUTION SOURCE PERMIT #0448010058-P005
- k. AIR POLLUTION SOURCE PERMIT #0448010058-P006
- 1. AIR POLLUTION SOURCE PERMIT #0448010058-P007
- m. AIR POLLUTION SOURCE PERMIT #0448010058-K001
- n. NPDES DISCHARGE PERMIT #21F00016*DD
- o. POTW DISCHARGE PERMIT ORDER #049-87-A
- P. AIR POLLUTION SOURCE REGISTRATION #0448010058-G001

THERE IS NO KNOWLEDGE OF A TSCA PERMIT NUMBER.

2. This plan complies with the provisions of 40 CFR Part 264, Sub-parts G, H, and J; AND OAC RULE 3745-66-10.

II. DESCRIPTION OF CLOSURE ACTIVITIES

A. Purpose

The following document presents a plan and outlines the necessary steps required to close 14 (Tanks #1 through #13, and Tank #15) out of the existing 15 RCRA Hazardous Waste Storage Tanks at the E. I. du Pont de Nemours & Co. paint and polymer manufacturing facility in Toledo, Ohio. Included are plans for removal TO OTHER TANKS, OR disposal of all materials remaining in the 14 tanks, and cleaning and decontamination of all surfaces and tanks. THE TANKS THAT ARE TO BE REMOVED AND ANY ANCILLARY EQUIPMENT ARE SHOWN ON ATTACHMENTS IV. IVA. IVB. IVC. IVD. AND IVE. The 14 tanks taken out of Hazardous Waste service are being replaced with 3 newly

installed tanks that meet the Secondary Containment requirements specified in 40 CFR Subpart J Section 264.193, and OAC 3745-66-93(A).

B. Decontamination

For the partial closure of the tanks, all of which are bottom unloading, draining the tanks and decontamination will remove any sludge from the bottom of the tanks. Each tank, supporting pipes, and auxiliary equipment will be further decontaminated as follows:

- Initial solvent rinsing until visual evidence of contamination is removed.
- (2) A hot water flush with detergent cleaning solution using high pressure spray to remove any residue. IT IS ANTICIPATED THAT NO MORE THAN A TOTAL OF 30 GALLONS OF RESIDUE IS PRESENT IN THE 14 TANKS TO BE CLOSED, BASED ON EXISTING KNOWLEDGE OF PAINT MANUFACTURING.
- (3) Triple rinsing with high pressure clean water.

 AFTER THE TRIPLE RINSE, SAMPLES OF THE RINSEATE

 SHALL BE ANALYZED FOR CONSTITUENTS OF EACH

 INDIVIDUAL TANK. IF THE PARAMETERS ARE AT OR BELOW

 THE CRITERIA SPECIFIED IN B-5 AND THERE IS NO

 VISUAL RESIDUAL CONTAMINATION, THE TANKS WILL BE

 CERTIFIED AS CLEAN.
- (4) The tanks will be visually inspected to determine if any residual contaminants remain. If

contamination is still evident, the tanks will be rinsed again using the high pressure clean water until clean.

- (5) The concrete floors under tank #1 through tank #12, and tank #15 will be cleaned TO REMOVE ANY STAINS.

 TO CONFIRM THAT THE FLOORS ARE CLEAN, THE RINSEATE(S) SHALL BE ANALYZED FOR THE PARAMETERS OF INTEREST USING THE METHODS AND DETECTION LIMITS AS OUTLINED IN SW-846 3RD EDITION. PARAMETERS AT OR BELOW THE CRITERIA SPECIFIED BELOW CAN BE CERTIFIED AS CLEAN.
 - A. PUBLIC DRINKING WATER MAXIMUM CONTAMINANT LEVEL

 (MCL) FOR HAZARDOUS WASTE CONSTITUENTS AS

 PROMULGATED IN 40 CFR 141.11 AND OAC 3745-81-11

 FOR INORGANICS AND 40 CFR 141.12 AND OAC 3745-81
 12 FOR ORGANICS;
 - B. IF AN MCL IS NOT AVAILABLE, THEN THE MAXIMUM CONTAMINANT LEVEL GOAL (MCLG) AS PROMULGATED IN 40 CFR 141.50 SHALL BE USED; OR
 - C. IF NEITHER AN MCL NOR MCLG IS AVAILABLE, 1 MG/L SHALL BE USED.

IF THE MCL OR MCLG IS LESS THAN THE CONTAMINANT'S ANALYTICAL DETECTION LIMIT USING METHODS FOUND IN USEPA PUBLICATION SW-846, THE SW-846 ANALYTICAL DETECTION LIMIT SHALL BE USED AS THE CLEAN STANDARD.

If additional cleaning is required, a high

pressure water spray will be used.

(6) THE ONLY CONTAMINATION OF THE TANK #13 AREA WOULD BE DUE TO POSSIBLE OVERFILLS OR LEAKS FROM THE UNLOADING PUMP AND CONNECTIONS. The grounds around and under tank #13, ATTACHMENT VIE, (ESTIMATED TO BE APPROXIMATELY 400 FEET SQUARE) will be sampled and tested to determine possible contamination. A TOTAL OF 9 SAMPLES WILL BE TAKEN; 4 OF THE SAMPLES FROM THE PERIMETER, 4 SAMPLES FROM WITHIN THE PERIMETER OF THE AREA, AND 2 BACKGROUND SAMPLES IN AN AREA APPROXIMATELY 110 FEET NORTH OF THE AREA. THE Representative soil samples from the diked area and appropriate background locations will be analyzed for pH or corrosivity, ignitability, E.P. Toxicity for lead, MEK, acetone, and toluene using the appropriate methods outlined in SW-846, "Test Methods for Evaluating Solid Waste-Physical/Chemical Methods, 3rd Edition". If the samples from TANK #13 area do not show contamination above background levels, the closure shall be deemed to have met the requirements of 40 CFR 264.197(a).

If the samples from WITHIN the area indicate
THAT contamination is present ABOVE THE BACKGROUND
LEVELS, AN APPROPRIATE AMOUNT OF soil will be
removed. BASED ON KNOWLEDGE OF TANK #13
OPERATIONS, IT IS ESTIMATED THAT APPROXIMATELY 40

YARDS OF SOIL MIGHT HAVE TO BE REMOVED AND
DISPOSED OFF. THE SOIL TESTING AND REMOVAL, IF
NEEDED, WILL BE CONTRACTED TO AN INDEPENDENT
ENGINEERING FIRM. ANY REMOVAL OF SOIL IS NOT
FORESEEN AS A PROBLEM. THE AREA IS OUTSIDE, WELL
EXPOSED TO GOOD AIR MOVEMENT, AND IS EASILY
ACCESSIBLE TO HEAVY EQUIPMENT. ANY SOIL TO BE
REMOVED WILL BE DEPOSITED INTO AN APPROPRIATE SIZE
DUMPSTER FOR SHIPMENT TO CHEMICAL WASTE MANAGEMENT
LANDFILL IN FT.WAYNE, INDIANA, APPROXIMATELY 150
MILES FROM THIS FACILITY.

(7) All cleaning solutions (NO BTU VALUE) shall be collected into a tanker OR DRUMS and shipped under a hazardous waste manifest IF APPROPRIATE, to Ross Incineration Services for disposal. ANY STORED WASTES FROM THE 14 TANKS (HI BTU VALUE) THAT REQUIRE DISPOSAL WILL BE COLLECTED INTO TANKERS OR DRUMS AND SHIPPED UNDER A HAZARDOUS WASTE MANIFEST TO LAFARGE SYSTECH FOR FUELS BLENDING.

The work to empty out and rinse/flush the tanks will be done by plant personnel. Initial concrete floor cleaning will also be done by plant personnel.

ALL ASPECTS OF THIS CLOSURE REGARDING EMPTYING
TANKS, CLEANING TANKS AND FLOORS WITH SOLVENT AND
OTHER CHEMICALS, AND ANY OTHER TASK INVOLVING USE
OF SOLVENTS WILL BE PERFORMED ACCORDING TO DUPONT

LOADING PROCEDURES AND STANDARD PRACTICES. PAGES
13 THROUGH 15 OF OUR MIXER LOADING MANUAL

(ATTACHMENT V) COVERS THE SELECTION AND USE OF
PERSONAL PROTECTIVE EQUIPMENT.

SINCE OUR HAZARDOUS WASTE IS ACTUALLY PAINT OR
PAINT COMPONENTS, HANDLING OF HAZARDOUS WASTE IS
COVERED IN OUR STANDARDS. ALL TASKS PERFORMED ON
THIS SITE ARE ACCORDING TO PRESCRIBED SAFETY
STANDARDS. PERSONAL PROTECTIVE EQUIPMENT USED
DURING THIS CLOSURE WILL BE HANDLED SAME AS AT
OTHER TIMES. PERSONAL PROTECTIVE EQUIPMENT
GENERALLY IS NOT DISCARDED UNLESS IT IS
CONTAMINATED WITH PAINT OR OTHER CHEMICALS AND
CONNOT BE CLEANED, IN WHICH CASE IT IS SENT OUT AS
PART OF OUR "PAINT OR CHEMICALLY CONTAMINATED
SOLIDS" WASTE STREAM FOR INCINERATION.
If the high pressure water cleaning is needed, a
local firm will be contracted to perform these

(8) Soil sampling and testing for tank #13 will also be contracted out to a local approved environmental services firm, as well as any remedial action at tank #13.

C. Dismantling

services.

ALL 14 tanks being closed (TANK #1 - #13, AND #15) WILL be physically DISMANTLED, AND SOLD AS SCRAP.

III. SCHEDULE OF CLOSURE

A. The schedule for the partial closure of the tanks identified above will begin approximately 45 days after this Notice and Plan is filed with the USEPA and OEPA, or sooner, if approval can be obtained. The time frame for the closure steps is therefore referenced to this date ("A").

B. The steps for the planned partial closure are:

<u>Time</u>	<u>Step</u>
<u>1.</u> June, 1989	Submission of Closure Plan and Notice to USEPA and OEPA.
2. "A" plus 90 days	USEPA and OEPA must have approved or rejected (264.112/3745-66-12).
3. "A" plus 90 days	Start closure of the 14 tanks.
4. "A" plus 105 days	Final wastes removed from all tanks.
<u>5.</u> "A" plus 120 days	Determine if closure can be complete in 75 days; if yes, arrange for dismantling of equipment, removal of wastes, engineering support if needed, etc.
6. "A" plus 135 days	Flush and decontaminate all tanks. Fluids and residues disposed offsite.
7. "A" plus 135 days	Collect soil samples from tank #13 area and submit for analysis.
8. "A" plus 5 months	Inspect tanks for any remaining residues.
9. "A" plus 150 days	Remove and dispose, if necessary, any

contaminated soil from tank #13 area.

10. "A" plus 5 months

Verify all actions as

prescribed.

11. "A" plus 6 months

Certify closure of each tank, and submit certification and reports

to USEPA and OEPA.

IV. CERTIFICATION

The closure activities outlined in this plan will be inspected and certified by an independent, registered, professional, engineer (Midwest Environmental Consultants in Toledo, Ohio). In addition, Mr. Samuel J. Bright, the Toledo Plant Manager will also certify closure activities. Each certification shall be worded in accordance to the requirements of 40 CFR 264.115/OAC 3745-66-15.

40 CFR 264.115/OAC 3745-66-15 DO NOT SPECIFY INCLUSION OF ANY TESTING AND ANALYSIS, CRITERIA FOR DETERMINING THE ADEQUACY OF THE ANALYSES, SCHEDULE OF INSPECTIONS BY THE INDEPENDENT, REGISTERED PROFESSIONAL ENGINEER, NOR TYPE OF DOCUMENTATION ACQUIRED DURING CLOSURE ACTIVITIES. IT IS EXPECTED THAT ALL TESTING AND ANALYSES OUTLINED IN THIS PARTIAL CLOSURE PLAN, ALL STATED ADEQUACY CRITERIA AS STATED IN THIS CLOSURE PLAN, ALL INSPECTIONS AS REQUIRED AND CONDUCTED BY THE INDEPENDENT, REGISTERED PROFESSIONAL ENGINEER DURING THE CLOSURE PROCESS WILL BE DOCUMENTED AND RETAINED ON SITE FOR A PERIOD OF THREE YEARS.

V. COST ESTIMATES and

ESTIMATE OF MAXIMUM INVENTORY OF HAZARDOUS WASTE

Attachment II table shows the current maximum costs and maximum hazardous waste inventory. The costs are calculated under the assumption that all closure work is to be done by outside contract personnel.

VI. FINANCIAL ASSURANCE MECHANISM

E. I. du Pont de Nemours & Co. guarantees the costs of closure for the RCRA permitted facility described in this partial closure plan in accordance with the requirements of 40 CFR 264.143 and OAC 3745-66-43. A copy of this financial demonstration and corporate guarantee is provided as Attachment VI.

VII. LIABILITY REQUIREMENTS

E. I. du Pont de Nemours & Co. maintains
liability coverage for sudden accidental occurrences
in the amount of \$1 million per occurrence with an annual
aggregate of at least \$2 million, exclusive of legal
defense costs. E. I. du Pont de Nemours & Co.
chooses to demonstrate this coverage as specified by
40 CFR 264.143 and OAC 3645-66-43. A copy of this
financial demonstration and corporate guarantee
is provided as Attachment VI.

OHD-005041843 Issued June 23, 1989

HAZARDOUS WASTE TANK STORAGE FACILITY PARTIAL CLOSURE PLAN

E. I. du Pont de Nemours & Co. TOLEDO APD PLANT

> 1930 Tremainsville Road Toledo, Ohio 43613 419-478-1211

Modified September 26, 1990

by: Anthony Parchomenko Environmental Coordinator

DUPONT TOLEDO PLANT

HAZARDOUS WASTE STORAGE FACILITY PARTIAL CLOSURE PLAN & NOTICE

I. GENERAL

A. Facility Description and Location

- is located along Tremainsville Road at Upton Avenue and is approximately 17 acres in size, TOPOGRAPHICAL MAP IS ATTACHED. (Attachment I).

 The facility has operated since 1934 for the manufacture of various paints and finishes including high grade automotive paints, clear finishes, and intermediate resins/polymers. Plant operations include the blending of various pigments, resins/polymers, and solvents to generate a salable product meeting the required standards of each independent commercial client.
- 2. THE PLANT IS SURROUNDED BY A 6 FOOT CHAIN LINK
 FENCE, ABOVE WHICH ARE 3 ANGLED STRANDS OF BARBED
 WIRE. ALL GATES ARE LOCKED EXCEPT WHEN UNDER DIRECT
 VISUAL SURVEILLANCE BY GUARDS OR OTHER PLANT
 PERSONNEL. THE SITE IS UNDER CONTINUOUS SURVEILLANCE
 24-HOURS A DAY, 7 DAYS A WEEK BY PLANT GUARDS USING
 WALKING TOURS AND ELECTRONIC EQUIPMENT.

"NO SMOKING" SIGNS ARE APPROPRIATELY POSTED THROUGHOUT

THE PLANT, AND THE PERIMETER FENCE IS APPROPRIATELY POSTED WITH "DANGER-UNAUTHORIZED PERSONNEL KEEP OUT". IT IS THE INTENT OF E.I.DUPONT DE NEMOURS & CO. TO OPERATE THIS FACILITY AS LONG AS FEASIBLE, BARRING ANY UNFORESEEN CIRCUMSTANCES, CLOSURE OF THIS ENTIRE FACILITY IS NOT EXPECTED BEFORE THE YEAR 2010. As a result of these operations, solvents contaminated with pigments and polymer solids are generated which cannot be reused in the various products. These used solvents are defined by three distinct contaminants, resin strip solvents (a byproduct), resin wash solvents, and pigmented wash solvents. These solvents, which exhibit the same characteristics as raw materials, have been stored in and processed through the 14 tanks for treatment purposes. The resin strip solvents are generally saved and/or used as needed for their high B.t.u. value in the plant's 3 steam generating packaged boilers. The resin wash solvents are also used for fuel value or processed through the Thin Film Evaporator and reused. The pigmented wash solvents are always processed through the Thin Film Evaporator for reuse as washes for pigmented products. The still bottoms from the Thin Film Evaporator are disposed of in BULK OR drums as Hazardous Waste at an off site incinerator.

3. PRESENTLY, THE SITE HAS IN OPERATION THE FOLLOWING

HAZARDOUS WASTE MANAGEMENT UNITS:

- a. TANK #1, EXISTING FILLING FLOOR PIGMENTED DIRTY
 WASH SOLVENT ACCUMULATION TANK (D001, D005, D007,
 D008, D018, D026, D035, F003, F005).
- b. TANKS #2 THROUGH #8, FORMERLY RESIN DIRTY WASH
 SOLVENT ACCUMULATION AND TRANSFER TANKS TO BOILER
 FEED TANK. OUT OF SERVICE.
- c. TANKS #9, #10, AND #15, FORMERLY PIGMENTED DIRTY
 WASH SOLVENT HOLD AND TRANSFER TANKS TO SOLVENT
 RECOVERY. OUT OF SERVICE.
- d. TANKS #11 AND #12, FORMERLY PIGMENTED DIRTY WASH SOLVENT FEED TANKS TO SOLVENT RECOVERY. OUT OF SERVICE.
- e. TANK #13, FORMERLY RESIN DIRTY WASH SOLVENT FEED
 TANK TO BOILERS. OUT OF SERVICE.
- f. TANK #14, EXISTING PIGMENTED DIRTY WASH SOLVENT FEED TANK TO SOLVENT RECOVERY (D001, D005, D007, D008, D018, D026, D035, F003, F005).
- g. TANK #W10, EXISTING 90 DAY RESIN DIRTY WASH SOLVENT FEED TANK TO BOILERS (D001, D018, D035, F003, F005).
- h. TANK #W11, EXISTING 90 DAY STILL BOTTOMS ACCUMULATION TANK (D001, D005, D007, D008, D018, D026, D035, F003, F005).
- i. ROW F (OF FINISHED PRODUCT STORAGE PAD) PERMITTED HAZARDOUS WASTE CONTAINER STORAGE (D001, D005, D007, D008, D018, D026, D035, F003, F005).

- j. TANK #L01, EXISTING 90 DAY REMOVABLE, USED PAINT TEST SAMPLES ACCUMULATION TANK (D001, D005, D007, D008, D018, D026, D035, F003, F005).
- k. SATELLITE ACCUMULATION DRUMS, GRINDING 1B3.
 ACCUMULATION OF SCRAP PAINT AND CHEMICALLY
 CONTAMINATED SOLIDS (D001, D005, D007, D008, D018, D026, D035, F003, F005).
- 1. SATELLITE ACCUMULATION DRUMS, GRINDING 1A2.

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 ACCUMULATION OF SCRAP PAINT, AND CHEMICALLY

 CONTAMINATED SOLIDS (D001, D005, D007, D008, D018, D026, D035, F003, F005).
- n. SATELLITE ACCUMULATION DRUMS, FILLING 1B1. ACCUMULATION OF SCRAP PAINT AND CHEMICALLY CONTAMINATED SOLIDS (D001, D005, D007, D008, D018, D026, D035, F003, F005).
- o. SATELLITE ACCUMULATION DRUMS, CHEMICAL 1H.

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- 4. The intent of this closure is to replace the existing 14 hazardous waste tanks THAT ARE NOT EQUIPPED WITH SECONDARY CONTAINMENT OR LEAK DETECTION SYSTEMS AND GENERALLY ARE NOT ACCEPTABLE FOR THIS TYPE OF RETROFITING. THE 14 TANKS WILL BE REPLACED with 3 tanks which meet the Secondary Containment AND LEAK DETECTION requirements, and to replace the handling of still bottoms in drums with bulk handling operations. LAYOUT SKETCHES OF THE TANKS TO BE REMOVED ARE SHOWN IN ATTACHMENTS IV. IVA. IVB.IVC. IVD. AND IVE.

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THERE IS NO KNOWLEDGE OF A TSCA PERMIT NUMBER.

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IVB., IVC., IVD., AND IVE. The 14 tanks taken out of Hazardous Waste service are being replaced with 3 newly

installed tanks that meet the Secondary Containment requirements specified in 40 CFR Subpart J Section 264.193, and OAC 3745-66-93(A).

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For the partial closure of the tanks, all of which are bottom unloading, draining the tanks and decontamination will remove any sludge from the bottom of the tanks. Each tank, supporting pipes, and auxiliary equipment will be further decontaminated as follows:

- (1) Initial solvent rinsing until visual evidence of contamination is removed.
- (2) A hot water flush with detergent cleaning solution using high pressure spray to remove any residue. IT IS ANTICIPATED THAT NO MORE THAN A TOTAL OF 30 GALLONS OF RESIDUE IS PRESENT IN THE 14 TANKS TO BE CLOSED, BASED ON EXISTING KNOWLEDGE OF PAINT MANUFACTURING.
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 AFTER THE TRIPLE RINSE, SAMPLES OF THE RINSEATE

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 INDIVIDUAL TANK. IF THE PARAMETERS ARE AT OR BELOW

 THE CRITERIA SPECIFIED IN B-5 AND THERE IS NO

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- (4) The tanks will be visually inspected to determine if any residual contaminants remain. If

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 - A. PUBLIC DRINKING WATER MAXIMUM CONTAMINANT LEVEL

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IF THE MCL OR MCLG IS LESS THAN THE CONTAMINANT'S ANALYTICAL DETECTION LIMIT USING METHODS FOUND IN USEPA PUBLICATION SW-846, THE SW-846 ANALYTICAL DETECTION LIMIT SHALL BE USED AS THE CLEAN STANDARD.

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pressure water spray will be used.

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OTHER CHEMICALS, AND ANY OTHER TASK INVOLVING USE
OF SOLVENTS WILL BE PERFORMED ACCORDING TO DUPONT

LOADING PROCEDURES AND STANDARD PRACTICES, PAGES 13 THROUGH 15 OF OUR MIXER LOADING MANUAL (ATTACHMENT V) COVERS THE SELECTION AND USE OF PERSONAL PROTECTIVE EQUIPMENT. SINCE OUR HAZARDOUS WASTE IS ACTUALLY PAINT OR PAINT COMPONENTS, HANDLING OF HAZARDOUS WASTE IS COVERED IN OUR STANDARDS, ALL TASKS PERFORMED ON THIS SITE ARE ACCORDING TO PRESCRIBED SAFETY STANDARDS, PERSONAL PROTECTIVE EQUIPMENT USED DURING THIS CLOSURE WILL BE HANDLED SAME AS AT OTHER TIMES. PERSONAL PROTECTIVE EQUIPMENT GENERALLY IS NOT DISCARDED UNLESS IT IS CONTAMINATED WITH PAINT OR OTHER CHEMICALS AND CONNOT BE CLEANED, IN WHICH CASE IT IS SENT OUT AS PART OF OUR "PAINT OR CHEMICALLY CONTAMINATED SOLIDS" WASTE STREAM FOR INCINERATION. If the high pressure water cleaning is needed, a local firm will be contracted to perform these services.

(8) Soil sampling and testing for tank #13 will also be contracted out to a local approved environmental services firm, as well as any remedial action at tank #13.

C. Dismantling

ALL 14 tanks being closed (TANK #1 - #13, AND #15)
WILL be physically DISMANTLED, AND SOLD AS SCRAP.

III. SCHEDULE OF CLOSURE

A. The schedule for the partial closure of the tanks identified above will begin approximately 45 days after this Notice and Plan is filed with the USEPA and OEPA, or sooner, if approval can be obtained. The time frame for the closure steps is therefore referenced to this date ("A").

B. The steps for the planned partial closure are:

Time	<u>Step</u>
<u>1.</u> June, 1989	Submission of Closure Plan and Notice to USEPA and OEPA.
2. "A" plus 90 days	USEPA and OEPA must have approved or rejected (264.112/3745-66-12).
3. "A" plus 90 days	Start closure of the 14 tanks.
4. "A" plus 105 days	Final wastes removed from all tanks.
5. "A" plus 120 days	Determine if closure can be complete in 75 days; if yes, arrange for dismantling of equipment, removal of wastes, engineering support if needed, etc.
6. "A" plus 135 days	Flush and decontaminate all tanks. Fluids and residues disposed offsite.
<u>7.</u> "A" plus 135 days	Collect soil samples from tank #13 area and submit for analysis.
8. "A" plus 5 months	Inspect tanks for any remaining residues.
9. "A" plus 150 days	Remove and dispose, if necessary, any

contaminated soil from tank #13 area.

10. "A" plus 5 months

Verify all actions as

prescribed.

11. "A" plus 6 months

Certify closure of each tank, and submit

certification and reports

to USEPA and OEPA.

IV. CERTIFICATION

The closure activities outlined in this plan will be inspected and certified by an independent, registered, professional, engineer (Midwest Environmental Consultants in Toledo, Ohio). In addition, Mr. Samuel J. Bright, the Toledo Plant Manager will also certify closure activities. Each certification shall be worded in accordance to the requirements of 40 CFR 264.115/OAC 3745-66-15.

40 CFR 264.115/OAC 3745-66-15 DO NOT SPECIFY INCLUSION OF ANY TESTING AND ANALYSIS, CRITERIA FOR DETERMINING

OF ANY TESTING AND ANALYSIS, CRITERIA FOR DETERMINING
THE ADEQUACY OF THE ANALYSES, SCHEDULE OF INSPECTIONS BY
THE INDEPENDENT, REGISTERED PROFESSIONAL ENGINEER, NOR
TYPE OF DOCUMENTATION ACQUIRED DURING CLOSURE
ACTIVITIES. IT IS EXPECTED THAT ALL TESTING AND
ANALYSES OUTLINED IN THIS PARTIAL CLOSURE PLAN, ALL
STATED ADEQUACY CRITERIA AS STATED IN THIS CLOSURE PLAN,
ALL INSPECTIONS AS REQUIRED AND CONDUCTED BY THE
INDEPENDENT, REGISTERED PROFESSIONAL ENGINEER DURING THE
CLOSURE PROCESS WILL BE DOCUMENTED AND RETAINED ON SITE
FOR A PERIOD OF THREE YEARS.

V. COST ESTIMATES and

ESTIMATE OF MAXIMUM INVENTORY OF HAZARDOUS WASTE

Attachment II table shows the current maximum costs and maximum hazardous waste inventory. The costs are calculated under the assumption that all closure work is to be done by outside contract personnel.

VI. FINANCIAL ASSURANCE MECHANISM

E. I. du Pont de Nemours & Co. guarantees the costs of closure for the RCRA permitted facility described in this partial closure plan in accordance with the requirements of 40 CFR 264.143 and OAC 3745-66-43. A copy of this financial demonstration and corporate guarantee is provided as Attachment VI.

VII. LIABILITY REQUIREMENTS

E. I. du Pont de Nemours & Co. maintains
liability coverage for sudden accidental occurrences
in the amount of \$1 million per occurrence with an annual
aggregate of at least \$2 million, exclusive of legal
defense costs. E. I. du Pont de Nemours & Co.
chooses to demonstrate this coverage as specified by
40 CFR 264.143 and OAC 3645-66-43. A copy of this
financial demonstration and corporate guarantee
is provided as Attachment VI.

HAZARDOUS WASTE TANK STORAGE FACILITY PARTIAL CLOSURE PLAN

E. I. du Pont de Nemours & Co., Inc. TOLEDO APD PLANT

1930 <u>Tremainsville Road</u>
<u>Toledo, Ohio 43613</u>
419-478-1211

June 23, 1989

by: Anthony Parchomenko Senior Engineer

DUPONT TOLEDO PLANT

HAZARDOUS WASTE STORAGE FACILITY PARTIAL CLOSURE PLAN & NOTICE

I. GENERAL

A. Facility Description and Location

The E. I. du Pont de Nemours & Co., Inc. facility is located along Tremainsville Road at Upton Avenue and is approximately 17 acres in size (Attachment I). The facility has operated since 1934 for the manufacture of various paints and finishes including high grade automotive paints, clear finishes, and intermediate resins/polymers. Plant operations include the blending of various pigments, resins/polymers, and solvents to generate a salable product meeting the required standards of each independent commercial client. As a result of these operations, solvents contaminated with pigments and polymer solids are generated which cannot be reused in the various products. These used solvents are defined by three distinct contaminants, resin strip solvents (a byproduct), resin wash solvents, and pigmented wash solvents. These solvents, which exhibit the same characteristics as raw materials, have been stored in and processed through the 14 tanks for treatment purposes. The resin strip solvents are

generally saved and/or used as needed for their high B.t.u. value in the plant's 3 steam generating packaged boilers. The resin wash solvents are also used for fuel value or processed through the Thin Film Evaporater and reused. The pigmented wash solvents are always processed through the Thin Film Evaporater for reuse as washes for pigmented products. The still bottoms from the Thin Film Evaporator are disposed of in drums as Hazardous Waste at an off site incinerator.

The intent of this closure is to replace the existing 14 hazardous waste tanks with 3 tanks which meet the Secondary Containment requirements, and to replace the handling of still bottoms in drums with bulk handling operations.

B. Applicable Regulations

This plan complies with the provisions of 40 CFR Part 264, Sub-parts G, H, and J.

II. DESCRIPTION OF CLOSURE ACTIVITIES

A. Purpose

The following document presents a plan and outlines the necessary steps required to close 14 (Tanks #1 through #13, and Tank #15) out of the existing 15 RCRA Hazardous Waste Storage Tanks at the E. I. du Pont de Nemours & Co., Inc. paint and polymer manufacturing facility in Toledo, Ohio. Included are plans for removal and disposal of all materials remaining in the 14 tanks, and cleaning and decontamination of all surfaces and tanks. The 14 tanks taken out of Hazardous Waste service are being replaced with 3 newly installed tanks that meet the Secondary Containment requirements specified in 40 CFR Subpart J Section 264.193, and OAC 3745-66-93(A).

B. Decontamination

For the partial closure of the tanks, all of which are bottom unloading, draining the tanks and decontamination will remove any sludge from the bottom of the tanks. Each tank, supporting pipes, and auxiliary equipment will be further decontaminated as follows:

- (1) Initial solvent rinsing until visual evidence of contamination is removed.
- (2) A hot water flush with detergent cleaning solution using high pressure spray to remove any residue.

- (3) Triple rinsing with high pressure clean water.
- (4) The tanks will be visually inspected to determine if any residual contaminants remain. If contamination is still evident, the tanks will be rinsed again using the high pressure clean water until clean.
- (5) The concrete floors under tank #1 through tank #12, and tank #15 will be cleaned if needed using detergent/water mixture and hard bristle brush. If additional cleaning is required, a high pressure water spray will be used.
- #13 will be sampled and tested to determine possible contamination. Representative soil samples from the diked area and appropriate background locations will be analyzed for pH or corrosivity, ignitability, E.P. Toxicity for lead, MEK, acetone, and toluene using the appropriate methods outlined in SW-846, "Test Methods for Evaluating Solid Waste- Physical/Chemical Methods, 3rd Edition".

 If the samples from the diked area do not show contamination above background levels, the closure shall be deemed to have met the requirements of 40 CFR 264.197(a).

If the samples from the diked area indicate contamination is still present, additional soil will be removed, or E. I. du Pont de Nemours & Co., Inc. will submit a post closure plan per 40 CFR 264.197(b).

- (7) All cleaning solutions shall be collected into a tanker and shipped under a hazardous waste manifest to Ross Incineration Services for disposal.

 The work to empty out and rinse/flush the tanks will be done by plant personnel. Initial concrete floor cleaning will also be done by plant personnel. If the high pressure water cleaning is needed, a local firm will be contracted to perform these services.
- (8) Soil sampling and testing for tank #13 will also be contracted out to a local approved environmental services firm, as well as any remedial action at tank #13.

C. Dismantling

Of the 14 tanks being closed, some are to be physically removed while others are to be converted back to process purposes.

(1) Tank #1, tanks #9 through #12, and tank #15 are to be physically dismantled and sold for scrap.

(2) Tanks #2 txrough #8 are to cleaned and decontaminated of all hazardous waste and put back into manufacturing service.

III. SCHEDULE OF CLOSURE

A. The schedule for the partial closure of the tanks identified above will begin approximately 45 days after this Notice and Plan is filed with the USEPA and OEPA, or sooner, if approval can be obtained. The time frame for the closure steps is therefore referenced to this date ("A").

B. The steps for the planned partial closure are:

<u>Time</u>	Step
1. June, 1989	Submission of Closure Plan and Notice to USEPA and OEPA.
2. "A" plus 45 days	USEPA and OEPA must have approved or rejected (264.112).
3. "A" plus 50 days	Start closure of the 14 tanks.
4. "A" plus 60 days	Final wastes removed from all tanks.
5. "A" plus 75 days	Determine if closure can be complete in 75 days; if yes, arrange for dismantling of equipment, removal of wastes, engineering support if needed, etc.
6. "A" plus 90 days	Flush and decontaminate all tanks. Fluids and residues disposed offsite.
7. "A" plus 90 days	Collect soil samples from tank #13 area and submit for analysis.
8. "A" plus 4 months	Inspect tanks for any remaining residues.
9. "A" plus 135 days	Remove and dispose, if necessary, any

OHD-005041843

contaminated soil from tank #13 area.

10. "A" plus 5 months

Verify all actions as prescribed.

11. "A" plus 6 months

Certify closure of each tank, and submit certification and reports to USEPA and OEPA.

IV. CERTIFICATION

The closure activities outlined in this plan will be inspected and certified by an independent, registered, professional, engineer from Midwest Environmental Consultants in Toledo, Ohio. In addition, Mr. Samuel J. Bright, the Toledo Plant Manager will also certify closure activities. Each certification shall be worded in accordance to the requirements of 40 CFR 264.115.

V. COST ESTIMATES and

ESTIMATE OF MAXIMUM INVENTORY OF HAZARDOUS WASTE

Attachment II table shows the current maximum costs and maximum hazardous waste inventory. The costs are calculated under the assumption that all closure work is to be done by outside contract personnel.

VI. FINANCIAL ASSURANCE MECHANISM

E. I. du Pont de Nemours & Co., Inc. guarantees the costs of closure for the RCRA permitted facility described in this partial closure plan in accordance with the requirements of 40 CFR 264.143 and OAC 3745-66-43. A copy of this financial demonstration and corporate guarantee is provided as Attachment III.

VII. LIABILITY REQUIREMENTS

E. I. du Pont de Nemours & Co., Inc. maintains liability coverage for sudden accidental occurrences in the amount of \$1 million per occurrence with an annual aggregate of at least \$2 million, exclusive of legal defense costs. E. I. du Pont de Nemours & Co., Inc. chooses to demonstrate this coverage as specified by 40 CFR 264.143 and OAC 3645-66-43. A copy of this financial demonstration and corporate guarantee is provided as Attachment III.

1991

E.I.DUPONT DE ...MOURS & CO.INC.
TOLEDO FPD PLANT; TOLEDO OHIO
COST OF CLOSURE ESTIMATE.
DATE CALCULATED: 3-04-91

	MRX. % OF EA.H.W.	1.106 WASTE	LABOR COST/HR		TOT LBR \$	NO.DRS STORED		DISPOSAL COST/DR.	. TOTAL DISPSL \$		COST		DECONTA- MINATION COST		TOTAL \$ OF EA. ACTI'TY CLOSURE
HW DRUM PAD	3.80%			19.342	\$962.65				\$12,338.24					R.ROSS & SON	
HW DRUM PAD	6.30%	7A An DRUMS	\$45.00	32.067	\$1,595.97	64.134			\$8,196.97				\$53.20 (R.ROSS & SON	\$10,413.60
HW DRUM PAD	5.10%	17A ACID DRUMS	\$45.00	25.959	\$1,291.98	51.918	0	\$121.00	\$7,233.45	\$8.00	\$0.00	\$459.37	1 \$43.07	R.ROSS & SON	5 \$9,027.87
HW DRUM PAD	6.30%		\$45.00	32.067	\$1,595.97	64.134			\$7,680.05				\$53. 20	R.ROSS & SON	\$9,896.68
HW DRUM PAD	35.40%	13 WASTE PAINT	\$45.00	180.18	\$8,967.86	360.37			\$39,005.07			•		R.ROSS & SON	,
HW DRUM PAD	0.00%	12 S.R.SLUDGE	\$45.00	0	\$0.00	0		\$80.00		\$8.00				R.ROSS & SO N	
HW DRUM PAD	8.90%	17 CONTM'TD MRTLS	\$45.00	45.301	\$2,254.63	90.602			\$18,778.13					R.ROSS & SON	•
HW DRUM PAD	29.10%	9 WASTE RESIN	\$45.00	148.11	\$7,371.88	296.23			\$26,264.77					R.ROSS & SON	•
HW DRUM PAD	1.30%	5A CONTMNTD DOW	\$45.00		\$329.33				\$1,676.20					R.ROSS & SON	*
HW DRUM PAD	1.30%	3 PIGMENT DUST	\$45.00	6.617	\$329.33	13.234			\$2,819.06					CHEM.WASTE	\$3,276.46
HW DRUM PAD	2.50%	15 OLD INSULATION	\$45.00	12.725	\$633.32	25.45	0	\$112.00	\$3,282.07	11.87	\$0.00			CHEM.WASTE	\$4,270.62
1	1AX GALS												.osure sub-		\$162,567.58
TANK #1-A1	700	16 WASH SOLVENT	\$45.00	6.3636	\$316.72	13		\$26.00	\$ 414 . 85					CHEM.WASTE	\$1,207.28
TANK #2-61	0	16 WASH SOLVENT	\$45.00	0	\$0.00	0		\$26.00	\$0.00	\$6.60	\$23.75	\$0.00	\$0.00	CHEM.WASTE	\$0.00
TANK #3-61	0	16 WASH SOLVENT	\$45.00	0	\$0.00	0	0	\$26.00		\$6.60				CHEM.WASTE	\$0.00
TANK #4-61	0	16 WASH SOLVENT	\$45.00	0	\$0.00	. 0	0			\$6.60				CHEM.WASTE	\$0.00
TRNK #5-61	8	16 WASH SOLVENT	\$45.00	0	\$0.00	0	0			\$6.60			\$0.00	CHEM. WASTE	\$0.00
TANK #6-G1	0	16 WASH SOLVENT	\$45.00	0	\$0. 00	0	0			\$6.60			\$0.00	CHEM.WASTE	\$0.00
TANK #7-61	0	16 WASH SOLVENT	\$45.00	0	\$0.00	0	0			\$6.60				CHEM.WASTE	\$0.00
TANK #8-61	0	16 WASH SOLVENT	\$45.00	0	\$0.00	0	0			\$6.60				CHEM.WASTE	\$0.00
tank #9-lv	0	16 WASH SOLVENT	\$45.00		\$0.00	0	0			\$6.60				CHEM. WASTE	\$0.00
TANK #10-LV	0	16 WASH SOLVENT	\$45.00		\$0.00		0			\$6.60				CHEM. WASTE	\$0.00
TANK #11-5R	0	16 WASH SOLVENT	\$45.00		\$0.00	0	0			\$6.60				CHEM. WASTE	\$0.00
TANK #12-5R	0	16 WASH SOLVENT	\$45.00		\$0.00	0	0			\$6.60				CHEM. WASTE	\$0.00
TANK #13-BH	3000	16 WASH SOLVENT			\$1,357.36	55	1.13		\$1,666.78			•		CHEM. WASTE	\$4,938.26
TANK #14-TF	10000	16 WASH SOLVENT			\$4,524.55		1.13		\$5,477.01			•		CHEM. WASTE	\$16,293.41
TANK #15-LV	0	16 Wash Solvent	\$45.00		\$0.00		0			\$6.60				CHEM. WASTE	\$0.00
TANK #16-TF	15000	16 WASH SOLVENT			\$6,786.82		2.26		\$2,849.69			•		SYSTECH	\$19,093.26
TANK #17-TF	15000	12 S.R.SLUDGE	\$45.00	136.36	\$6,786.82	273	2.26	\$9.00	\$2,849.69	\$6.60	\$23.75	\$9,230.53	\$226.23	SYSTECH	\$19,093.26

ESTIMATED TOTAL COST FOR ALL HAZARDOUS WASTE ACTIVITY CLOSURES:

H.W.TRNKS CLOSURE SUB-TOTAL \$60,625.46 \$223,193.04

Arrach.

4-15-91

QUPONT

OHD 005 041 843

. I. DU PONT DE NEMOURS & COMPANY

TOLEDO, OHIO 43695

CC: Lisa Pierard, REG V-USEPA Janet Leite, NWDO-OEPA

AUTOMOTIVE PRODUCTS DEPARTMENT

September 26, 1990

Thomas Crepeau, Manager Ohio Environmental Protection Agency Division of Solid & Hazardous Waste Management Data Management Section P.O.Box 1049 Columbus, Ohio 43266-0149

RE: Notice of Deficiency, 08-06-90 Partial Closure Plan, 06-23-89 E. I. du Pont de Nemours & Co. OHD 005 041 843

Dear Mr. Crepeau:

As directed in Mr. Kitchen's letter of Sep 17, 1990 and the NOD of Aug 6, 1990, enclosed please find 3 copies of our modified Partial Closure Plan.

Sincerely,

Anthony Parchomenko Environmental Coordinator

HAZARDOUS WASTE TANK STORAGE FACILITY PARTIAL CLOSURE PLAN

E. I. du Pont de Nemours & Co. TOLEDO APD PLANT

1930 Tremainsville Road
Toledo, Ohio 43613
419-478-1211

Modified September 26, 1990

by: Anthony Parchomenko
Environmental Coordinator

DUPONT TOLEDO PLANT

HAZARDOUS WASTE STORAGE FACILITY PARTIAL CLOSURE PLAN & NOTICE

I. GENERAL

A. Facility Description and Location

- is located along Tremainsville Road at Upton Avenue and is approximately 17 acres in size, TOPOGRAPHICAL MAP IS ATTACHED. (Attachment I).

 The facility has operated since 1934 for the manufacture of various paints and finishes including high grade automotive paints, clear finishes, and intermediate resins/polymers. Plant operations include the blending of various pigments, resins/polymers, and solvents to generate a salable product meeting the required standards of each independent commercial client.
- 2. THE PLANT IS SURROUNDED BY A 6 FOOT CHAIN LINK
 FENCE, ABOVE WHICH ARE 3 ANGLED STRANDS OF BARBED
 WIRE. ALL GATES ARE LOCKED EXCEPT WHEN UNDER DIRECT
 VISUAL SURVEILLANCE BY GUARDS OR OTHER PLANT
 PERSONNEL. THE SITE IS UNDER CONTINUOUS SURVEILLANCE
 24-HOURS A DAY, 7 DAYS A WEEK BY PLANT GUARDS USING
 WALKING TOURS AND ELECTRONIC EQUIPMENT.

"NO SMOKING" SIGNS ARE APPROPRIATELY POSTED THROUGHOUT

THE PLANT, AND THE PERIMETER FENCE IS APPROPRIATELY POSTED WITH "DANGER-UNAUTHORIZED PERSONNEL KEEP OUT". IT IS THE INTENT OF E.I.DUPONT DE NEMOURS & CO. TO OPERATE THIS FACILITY AS LONG AS FEASIBLE, BARRING ANY UNFORESEEN CIRCUMSTANCES, CLOSURE OF THIS ENTIRE FACILITY IS NOT EXPECTED BEFORE THE YEAR 2010. As a result of these operations, solvents contaminated with pigments and polymer solids are generated which cannot be reused in the various products. These used solvents are defined by three distinct contaminants, resin strip solvents (a byproduct), resin wash solvents, and pigmented wash solvents. These solvents, which exhibit the same characteristics as raw materials, have been stored in and processed through the 14 tanks for treatment purposes. The resin strip solvents are generally saved and/or used as needed for their high B.t.u. value in the plant's 3 steam generating packaged boilers. The resin wash solvents are also used for fuel value or processed through the Thin Film Evaporator and reused. The pigmented wash solvents are always processed through the Thin Film Evaporator for reuse as washes for pigmented products. The still bottoms from the Thin Film Evaporator are disposed of in BULK OR drums as Hazardous Waste at an off site incinerator.

3. PRESENTLY, THE SITE HAS IN OPERATION THE FOLLOWING

HAZARDOUS WASTE MANAGEMENT UNITS:

- a. TANK #1, EXISTING FILLING FLOOR PIGMENTED DIRTY WASH SOLVENT ACCUMULATION TANK (D001, D005, D007, D008, D018, D026, D035, F003, F005).
- b. TANKS #2 THROUGH #8, FORMERLY RESIN DIRTY WASH SOLVENT ACCUMULATION AND TRANSFER TANKS TO BOILER FEED TANK. OUT OF SERVICE.
- c. TANKS #9, #10, AND #15, FORMERLY PIGMENTED DIRTY
 WASH SOLVENT HOLD AND TRANSFER TANKS TO SOLVENT
 RECOVERY. OUT OF SERVICE.
- d. TANKS #11 AND #12, FORMERLY PIGMENTED DIRTY WASH SOLVENT FEED TANKS TO SOLVENT RECOVERY. OUT OF SERVICE.
- e. TANK #13, FORMERLY RESIN DIRTY WASH SOLVENT FEED
 TANK TO BOILERS. OUT OF SERVICE.
- f. TANK #14, EXISTING PIGMENTED DIRTY WASH SOLVENT FEED TANK TO SOLVENT RECOVERY (D001, D005, D007, D008, D018, D026, D035, F003, F005).
- g. TANK #W10, EXISTING 90 DAY RESIN DIRTY WASH SOLVENT FEED TANK TO BOILERS (D001, D018, D035, F003, F005).
- h. TANK #W11, EXISTING 90 DAY STILL BOTTOMS ACCUMULATION TANK (D001, D005, D007, D008, D018, D026, D035, F003, F005).
- i. ROW F (OF FINISHED PRODUCT STORAGE PAD) PERMITTED HAZARDOUS WASTE CONTAINER STORAGE (D001, D005, D007, D008, D018, D026, D035, F003, F005).

- j. TANK #L01, EXISTING 90 DAY REMOVABLE, USED PAINT TEST SAMPLES ACCUMULATION TANK (D001, D005, D007, D008, D018, D026, D035, F003, F005).
- k. SATELLITE ACCUMULATION DRUMS, GRINDING 1B3.
 ACCUMULATION OF SCRAP PAINT AND CHEMICALLY
 CONTAMINATED SOLIDS (D001, D005, D007, D008, D018, D026, D035, F003, F005).
- 1. SATELLITE ACCUMULATION DRUMS, GRINDING 1A2.

 ACCUMULATION OF SCRAP PAINT AND CHEMICALLY

 CONTAMINATED SOLIDS (D001, D005, D007, D008, D018, D026, D035, F003, F005).
- m. SATELLITE ACCUMULATION DRUMS, MIXING 1B2.

 ACCUMULATION OF SCRAP PAINT AND CHEMICALLY

 CONTAMINATED SOLIDS (D001, D005, D007, D008, D018, D026, D035, F003, F005).
- n. SATELLITE ACCUMULATION DRUMS, FILLING 1B1.
 ACCUMULATION OF SCRAP PAINT AND CHEMICALLY
 CONTAMINATED SOLIDS (D001, D005, D007, D008, D018, D026, D035, F003, F005).
- o. SATELLITE ACCUMULATION DRUMS, CHEMICAL 1H.

 ACCUMULATION OF SCRAP RESIN AND CHEMICALLY

 CONTAMINATED SOLIDS (D001, D018, D026, D035, F003, F005).
- P. SATELLITE ACCUMULATION DRUMS, RESIN 1J. ACCUMULATION OF SCRAP RESIN AND CHEMICALLY CONTAMINATED SOLIDS (D001, D018, D026, D035, F003, F005).

- q. SATELLITE ACCUMULATION DRUMS, RESIN 1F. ACCUMULATION OF SCRAP RESIN AND CHEMICALLY CONTAMINATED SOLIDS (D001, D018, D026, D035, F003, F005).
- 4. The intent of this closure is to replace the existing 14 hazardous waste tanks THAT ARE NOT EQUIPPED WITH SECONDARY CONTAINMENT OR LEAK DETECTION SYSTEMS AND GENERALLY ARE NOT ACCEPTABLE FOR THIS TYPE OF RETROFITING. THE 14 TANKS WILL BE REPLACED with 3 tanks which meet the Secondary Containment AND LEAK DETECTION requirements, and to replace the handling of still bottoms in drums with bulk handling operations. LAYOUT SKETCHES OF THE TANKS TO BE REMOVED ARE SHOWN IN ATTACHMENTS IV, IVA, IVB, IVC, IVD, AND IVE.

B. Applicable Regulations

- 1. THIS SITE IS OPERATING UNDER A NUMBER OF ENVIRONMENTAL PERMITS, AS LISTED:
 - a. AIR POLLUTION SOURCE PERMIT #0448010058-B001
 - b. AIR POLLUTION SOURCE PERMIT #0448010058-B002
 - c. AIR POLLUTION SOURCE PERMIT #0448010058-B003
 - d. AIR POLLUTION SOURCE PERMIT #0448010058-B004
 - e. AIR POLLUTION SOURCE PERMIT #0448010058-B005
 - f. AIR POLLUTION SOURCE PERMIT #0448010058-P001
 - g. AIR POLLUTION SOURCE PERMIT #0448010058-P002
 - h. AIR POLLUTION SOURCE PERMIT #0448010058-P003
 - i. AIR POLLUTION SOURCE PERMIT #0448010058-P004

- j. AIR POLLUTION SOURCE PERMIT #0448010058-P005
- k. AIR POLLUTION SOURCE PERMIT #0448010058-P006
- 1. AIR POLLUTION SOURCE PERMIT #0448010058-P007
- m. AIR POLLUTION SOURCE PERMIT #0448010058-K001
- n. NPDES DISCHARGE PERMIT #21F00016*DD
- o. POTW DISCHARGE PERMIT ORDER #049-87-A
- P. AIR POLLUTION SOURCE REGISTRATION #0448010058– G001

THERE IS NO KNOWLEDGE OF A TSCA PERMIT NUMBER.

2. This plan complies with the provisions of 40 CFR Part 264, Sub-parts G, H, and J; AND OAC RULE 3745-66-10.

II. DESCRIPTION OF CLOSURE ACTIVITIES

A. Purpose

The following document presents a plan and outlines the necessary steps required to close 14 (Tanks #1 through #13, and Tank #15) out of the existing 15 RCRA Hazardous Waste Storage Tanks at the E. I. du Pont de Nemours & Co. paint and polymer manufacturing facility in Toledo, Ohio. Included are plans for removal TO OTHER TANKS, OR disposal of all materials remaining in the 14 tanks, and cleaning and decontamination of all surfaces and tanks. THE TANKS THAT ARE TO BE REMOVED AND ANY ANCILLARY EQUIPMENT ARE SHOWN ON ATTACHMENTS IV, IVA, IVB, IVC, IVD, AND IVE. The 14 tanks taken out of Hazardous Waste service are being replaced with 3 newly

installed tanks that meet the Secondary Containment requirements specified in 40 CFR Subpart J Section 264.193, and OAC 3745-66-93(A).

B. Decontamination

For the partial closure of the tanks, all of which are bottom unloading, draining the tanks and decontamination will remove any sludge from the bottom of the tanks. Each tank, supporting pipes, and auxiliary equipment will be further decontaminated as follows:

- (1) Initial solvent rinsing until visual evidence of contamination is removed.
- (2) A hot water flush with detergent cleaning solution using high pressure spray to remove any residue. IT IS ANTICIPATED THAT NO MORE THAN A TOTAL OF 30 GALLONS OF RESIDUE IS PRESENT IN THE 14 TANKS TO BE CLOSED, BASED ON EXISTING KNOWLEDGE OF PAINT MANUFACTURING.
- (3) Triple rinsing with high pressure clean water.

 AFTER THE TRIPLE RINSE, SAMPLES OF THE RINSEATE

 SHALL BE ANALYZED FOR CONSTITUENTS OF EACH

 INDIVIDUAL TANK. IF THE PARAMETERS ARE AT OR BELOW

 THE CRITERIA SPECIFIED IN B-5 AND THERE IS NO

 VISUAL RESIDUAL CONTAMINATION, THE TANKS WILL BE

 CERTIFIED AS CLEAN.
- (4) The tanks will be visually inspected to determine if any residual contaminants remain. If

- contamination is still evident, the tanks will be rinsed again using the high pressure clean water until clean.
- (5) The concrete floors under tank #1 through tank #12, and tank #15 will be cleaned TO REMOVE ANY STAINS.

 TO CONFIRM THAT THE FLOORS ARE CLEAN, THE RINSEATE(S) SHALL BE ANALYZED FOR THE PARAMETERS OF INTEREST USING THE METHODS AND DETECTION LIMITS AS OUTLINED IN SW-846 3RD EDITION. PARAMETERS AT OR BELOW THE CRITERIA SPECIFIED BELOW CAN BE CERTIFIED AS CLEAN.
 - A. PUBLIC DRINKING WATER MAXIMUM CONTAMINANT LEVEL

 (MCL) FOR HAZARDOUS WASTE CONSTITUENTS AS

 PROMULGATED IN 40 CFR 141.11 AND OAC 3745-81-11

 FOR INORGANICS AND 40 CFR 141.12 AND OAC 3745-81
 12 FOR ORGANICS;
 - B. IF AN MCL IS NOT AVAILABLE, THEN THE MAXIMUM CONTAMINANT LEVEL GOAL (MCLG) AS PROMULGATED IN 40 CFR 141.50 SHALL BE USED; OR
 - C. IF NEITHER AN MCL NOR MCLG IS AVAILABLE, 1 MG/L SHALL BE USED.

IF THE MCL OR MCLG IS LESS THAN THE CONTAMINANT'S ANALYTICAL DETECTION LIMIT USING METHODS FOUND IN USEPA PUBLICATION SW-846, THE SW-846 ANALYTICAL DETECTION LIMIT SHALL BE USED AS THE CLEAN STANDARD.

If additional cleaning is required, a high

pressure water spray will be used.

(6) THE ONLY CONTAMINATION OF THE TANK #13 AREA WOULD BE DUE TO POSSIBLE OVERFILLS OR LEAKS FROM THE UNLOADING PUMP AND CONNECTIONS. The grounds around and under tank #13, ATTACHMENT VIE, (ESTIMATED TO BE APPROXIMATELY 400 FEET SQUARE) will be sampled and tested to determine possible contamination. A TOTAL OF 9 SAMPLES WILL BE TAKEN: 4 OF THE SAMPLES FROM THE PERIMETER, 4 SAMPLES FROM WITHIN THE PERIMETER OF THE AREA, AND 2 BACKGROUND SAMPLES IN AN AREA APPROXIMATELY 110 FEET NORTH OF THE AREA. THE Representative soil samples from the diked area and appropriate background locations will be analyzed for pH or corrosivity, ignitability, E.P. Toxicity for lead, MEK, acetone, and toluene using the appropriate methods outlined in SW-846, "Test Methods for Evaluating Solid Waste-Physical/Chemical Methods, 3rd Edition". If the samples from TANK #13 area do not show contamination above background levels, the closure shall be deemed to have met the requirements of 40 CFR 264.197(a).

If the samples from WITHIN the area indicate
THAT contamination is present ABOVE THE BACKGROUND
LEVELS, AN APPROPRIATE AMOUNT OF soil will be
removed. BASED ON KNOWLEDGE OF TANK #13
OPERATIONS, IT IS ESTIMATED THAT APPROXIMATELY 40

YARDS OF SOIL MIGHT HAVE TO BE REMOVED AND DISPOSED OFF. THE SOIL TESTING AND REMOVAL, IF NEEDED, WILL BE CONTRACTED TO AN INDEPENDENT ENGINEERING FIRM. ANY REMOVAL OF SOIL IS NOT FORESEEN AS A PROBLEM. THE AREA IS OUTSIDE, WELL EXPOSED TO GOOD AIR MOVEMENT, AND IS EASILY ACCESSIBLE TO HEAVY EQUIPMENT. ANY SOIL TO BE REMOVED WILL BE DEPOSITED INTO AN APPROPRIATE SIZE DUMPSTER FOR SHIPMENT TO CHEMICAL WASTE MANAGEMENT LANDFILL IN FT.WAYNE, INDIANA, APPROXIMATELY 150 MILES FROM THIS FACILITY.

(7) All cleaning solutions (NO BTU VALUE) shall be collected into a tanker OR DRUMS and shipped under a hazardous waste manifest IF APPROPRIATE, to Ross Incineration Services for disposal. ANY STORED WASTES FROM THE 14 TANKS (HI BTU VALUE) THAT REQUIRE DISPOSAL WILL BE COLLECTED INTO TANKERS OR DRUMS AND SHIPPED UNDER A HAZARDOUS WASTE MANIFEST TO LAFARGE SYSTECH FOR FUELS BLENDING.

The work to empty out and rinse/flush the tanks will be done by plant personnel. Initial concrete floor cleaning will also be done by plant personnel.

ALL ASPECTS OF THIS CLOSURE REGARDING EMPTYING
TANKS, CLEANING TANKS AND FLOORS WITH SOLVENT AND
OTHER CHEMICALS, AND ANY OTHER TASK INVOLVING USE
OF SOLVENTS WILL BE PERFORMED ACCORDING TO DUPONT

13 THROUGH 15 OF OUR MIXER LOADING MANUAL (ATTACHMENT V) COVERS THE SELECTION AND USE OF PERSONAL PROTECTIVE EQUIPMENT. SINCE OUR HAZARDOUS WASTE IS ACTUALLY PAINT OR PAINT COMPONENTS, HANDLING OF HAZARDOUS WASTE IS COVERED IN OUR STANDARDS. ALL TASKS PERFORMED ON THIS SITE ARE ACCORDING TO PRESCRIBED SAFETY STANDARDS. PERSONAL PROTECTIVE EQUIPMENT USED DURING THIS CLOSURE WILL BE HANDLED SAME AS AT OTHER TIMES. PERSONAL PROTECTIVE EQUIPMENT GENERALLY IS NOT DISCARDED UNLESS IT IS CONTAMINATED WITH PAINT OR OTHER CHEMICALS AND CONNOT BE CLEANED, IN WHICH CASE IT IS SENT OUT AS PART OF OUR "PAINT OR CHEMICALLY CONTAMINATED SOLIDS" WASTE STREAM FOR INCINERATION. If the high pressure water cleaning is needed, a local firm will be contracted to perform these services.

LOADING PROCEDURES AND STANDARD PRACTICES. PAGES

(8) Soil sampling and testing for tank #13 will also be contracted out to a local approved environmental services firm, as well as any remedial action at tank #13.

C. Dismantling

ALL 14 tanks being closed (TANK #1 - #13, AND #15) WILL be physically DISMANTLED, AND SOLD AS SCRAP.

III. SCHEDULE OF CLOSURE

A. The schedule for the partial closure of the tanks identified above will begin approximately 45 days after this Notice and Plan is filed with the USEPA and OEPA, or sooner, if approval can be obtained. The time frame for the closure steps is therefore referenced to this date ("A").

B. The steps for the planned partial closure are:

<u>Time</u>	<u>Step</u>
<u>1.</u> June, 1989	Submission of Closure Plan and Notice to USEPA and OEPA.
<u>2.</u> "A" plus 90 days	USEPA and OEPA must have approved or rejected (264.112/3745-66-12).
3. "A" plus 90 days	Start closure of the 14 tanks.
4. "A" plus 105 days	Final wastes removed from all tanks.
<u>5.</u> "A" plus 120 days	Determine if closure can be complete in 75 days; if yes, arrange for dismantling of equipment, removal of wastes, engineering support if needed, etc.
<u>6.</u> "A" plus 135 days	Flush and decontaminate all tanks. Fluids and residues disposed offsite.
7. "A" plus 135 days	Collect soil samples from tank #13 area and submit for analysis.
8. "A" plus 5 months	Inspect tanks for any remaining residues.
<u>9.</u> "A" plus 150 days	Remove and dispose, if necessary, any

contaminated soil from tank #13 area.

10. "A" plus 5 months

Verify all actions as prescribed.

11. "A" plus 6 months

Certify closure of each tank, and submit certification and reports to USEPA and OEPA.

IV. CERTIFICATION

The closure activities outlined in this plan will be inspected and certified by an independent, registered, professional, engineer (Midwest Environmental Consultants in Toledo, Ohio). In addition, Mr. Samuel J. Bright, the Toledo Plant Manager will also certify closure activities. Each certification shall be worded in accordance to the requirements of 40 CFR 264.115/OAC 3745-66-15.

40 CFR 264.115/OAC 3745-66-15 DO NOT SPECIFY INCLUSION OF ANY TESTING AND ANALYSIS, CRITERIA FOR DETERMINING THE ADEQUACY OF THE ANALYSES, SCHEDULE OF INSPECTIONS BY THE INDEPENDENT, REGISTERED PROFESSIONAL ENGINEER, NOR TYPE OF DOCUMENTATION ACQUIRED DURING CLOSURE ACTIVITIES. IT IS EXPECTED THAT ALL TESTING AND ANALYSES OUTLINED IN THIS PARTIAL CLOSURE PLAN, ALL STATED ADEQUACY CRITERIA AS STATED IN THIS CLOSURE PLAN, ALL INSPECTIONS AS REQUIRED AND CONDUCTED BY THE INDEPENDENT, REGISTERED PROFESSIONAL ENGINEER DURING THE CLOSURE PROCESS WILL BE DOCUMENTED AND RETAINED ON SITE FOR A PERIOD OF THREE YEARS.

V. COST ESTIMATES and

ESTIMATE OF MAXIMUM INVENTORY OF HAZARDOUS WASTE

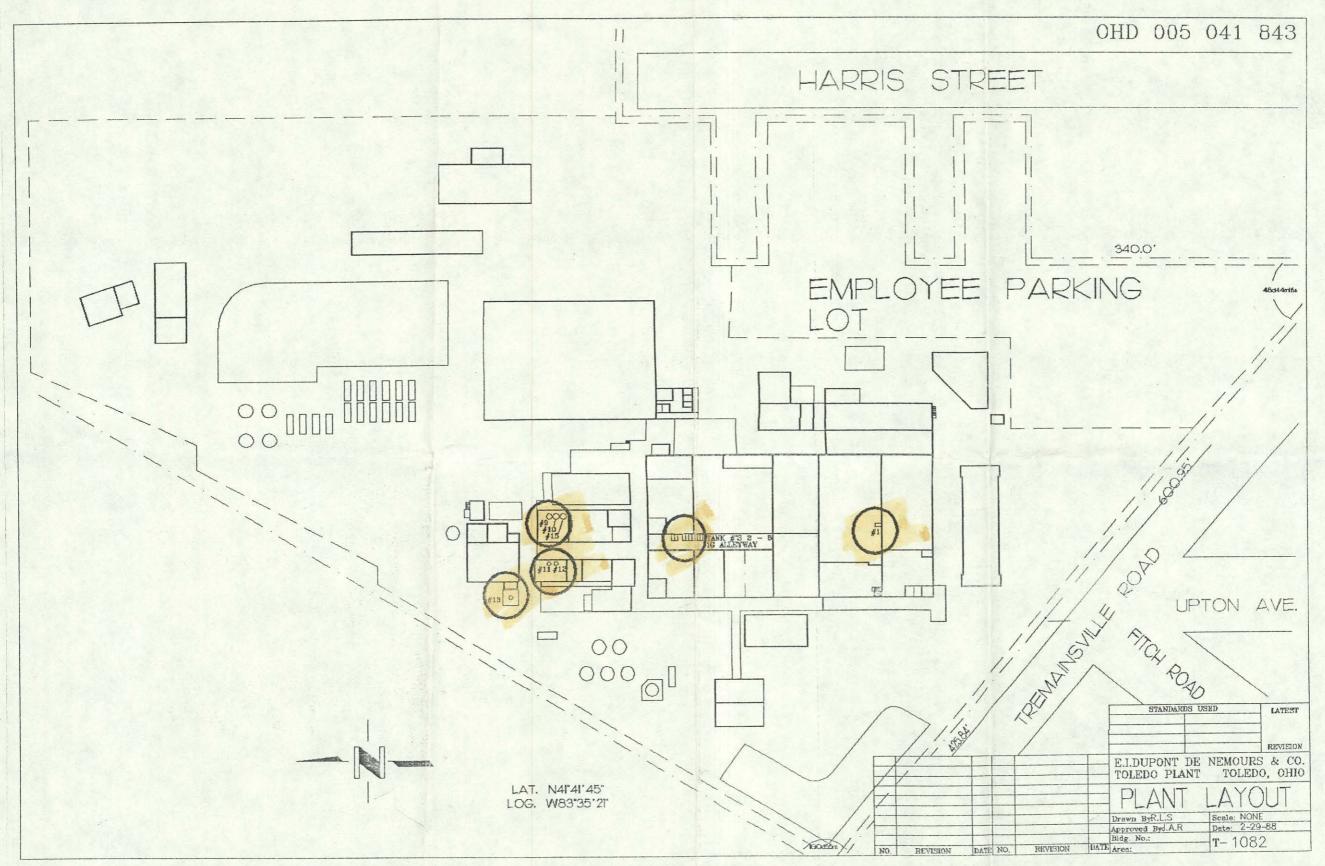
Attachment II table shows the current maximum costs and maximum hazardous waste inventory. The costs are calculated under the assumption that all closure work is to be done by outside contract personnel.

VI. FINANCIAL ASSURANCE MECHANISM

E. I. du Pont de Nemours & Co. guarantees the costs of closure for the RCRA permitted facility described in this partial closure plan in accordance with the requirements of 40 CFR 264.143 and OAC 3745-66-43. A copy of this financial demonstration and corporate guarantee is provided as Attachment VI.

VII. LIABILITY REQUIREMENTS

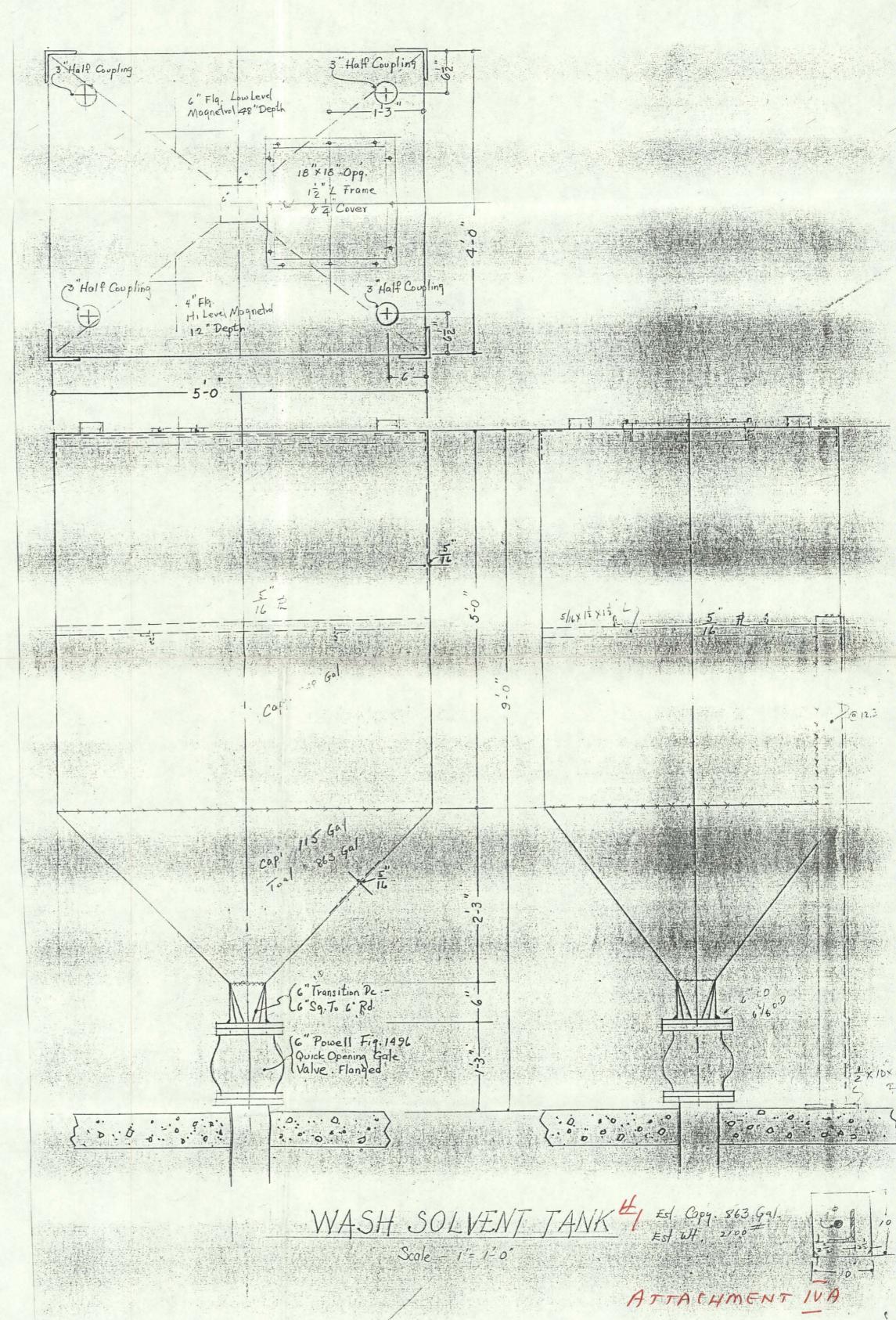
E. I. du Pont de Nemours & Co. maintains liability coverage for sudden accidental occurrences in the amount of \$1 million per occurrence with an annual aggregate of at least \$2 million, exclusive of legal defense costs. E. I. du Pont de Nemours & Co. chooses to demonstrate this coverage as specified by 40 CFR 264.143 and OAC 3645-66-43. A copy of this financial demonstration and corporate guarantee is provided as Attachment VI.



ATTACHMENTIV

I

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ATTACHMENT II

MAXIMUM INVENTORY and
COST OF CLOSURE ESTIMATE
E. I. Du PONT de NEMOURS & CO.
TOLEDO APD PLANT

Partial Closure of the Waste Storage Tanks

All costs are based on the following:

- * Waste from the tanks (HI BTU VALUE) is drummed out OR PUMPED TO TANKERS and sent to Lafarge Systech Corp., 85 MILES FROM THE SITE, for fuels blending per existing contract.
- * COST FOR DECONTAMINATION MATERIALS AND ADDITIONAL
 DISPOSAL COSTS FOR LOW VALUE BTU MATERIALS ARE
 SHOWN IN COLUMN 7, AND WILL BE DISPOSED OF AT ROSS
 INCINERATION SERVICES, GRAFTON, OHIO, ABOUT 85 MILES
 FROM THIS FACILITY.
- * Disposal costs includes transportation and the cost of the drum.
- * Labor cost for decontamination by an outside contractor is \$35/hour.
- * TOTAL NUMBER OF DRUMS REQUIRED, AS SHOWN IN THE FOLLOWING TABLE, INCLUDES 16 DRUMS (880 GALS) FOR THE RINSEATES/DECONTAMINATION LIQUIDS. BASED ON EXPERIENCE IN CLEANING PAINT MANUFACTURING TANKS, THE RINSEATES WILL NOT MEET ANY DEFINITION OF A HAZARDOUS WASTE AND WILL NOT BE ASSIGNED ANY USEPA HAZARDOUS WASTE CODES.

ATTACHMENT II

Decon. Hrs TOTAL Contract MTRL & PUMPABLE Labor Drums Disposal DISPSL Tank WCF# Gals Req'd Req'd Cost/Dr. Costs Total 1 16 750 6.25 15 \$230.71 \$1527.21 \$71.85 WASTE CODES: D001, D005, D007, D008, D018, D026, D035, F003, F005. 6.0 14 \$71.85 \$253.47 \$1469.37 2 16 720 WASTE CODES: DOO1, D018, D026, D035, F003, F005. 6.0 14 \$71.85 \$253.47 \$1469.37 720

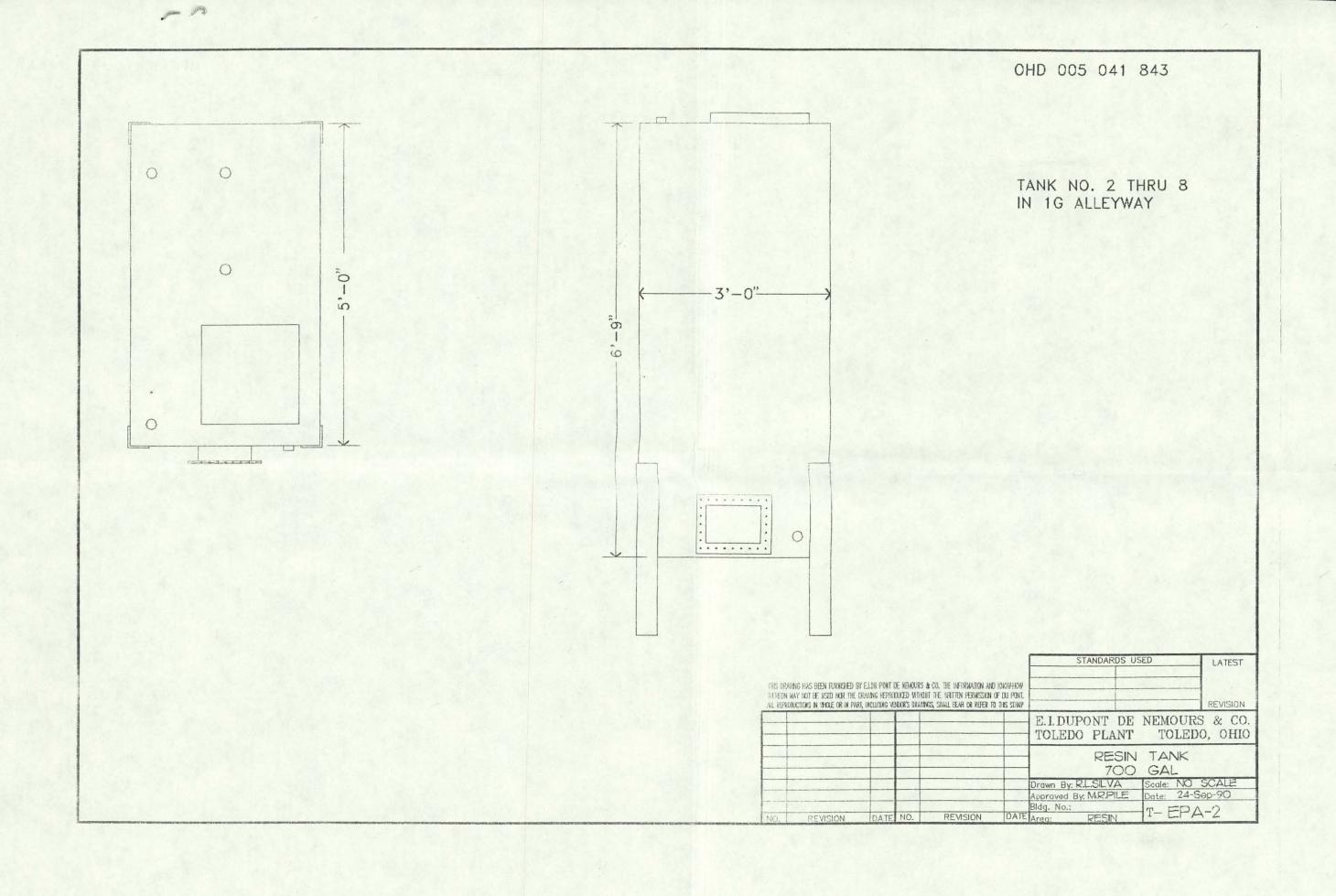
- WASTE CODES: D001, D018, D026, D035, F003, F005.
- 6.0 14 \$71.85 \$253.47 \$1469.37 WASTE CODES: D001, D018, D026, D035, F003, F005.
- 6.0 14 \$71.85 16 720 \$253.47 \$1469.37 5 WASTE CODES: D001, D018, D026, D035, F003, F005.
- 6.0 14 \$71.85 \$253.47 \$1469.37 16 720 WASTE CODES: D001, D018, D026, D035, F003, F005.
- 5.75 14 \$71.85 \$204.38 \$1411.53 WASTE CODES: D001, D018, D026, D035, F003, F005.
- 8. 16 710 6.0 14 \$71.85 \$234.19 \$1450.09 WASTE CODES: D001, D018, D026, D035, F003, F005.
- \$71.85 \$381.73 \$2298.43 16 1150 9.6 22 9. WASTE CODES: D001, D005, D007, D008, D018, D026, D035, F003, F005.
- 16 1200 10.0 23 \$71.85 \$392.28 \$2394.83 10. WASTE CODES: D001, D005, D007, D008, D018, D026, D035, F003, F005.
- 7.2 17 \$71.85 \$265.85 \$1739.30 16 860 11 WASTE CODES: D001, D005, D007, D008, D018, D026, D035, F003, F005.
- 7.2 17 \$71.85 \$265.85 \$1739.30 12 WASTE CODES: D001, D005, D007, D008, D018, D026, D035, F003, F005.
- 25.0 55 \$71.85 \$1038.53 \$5865.28 16 3000 WASTE CODES: D001, D018, D02, D035, F003, F005.

15 16 1000 8.33 20 \$71.85 \$280.67 \$2009.22 WASTE CODES: D001, D005, D007, D008, D018, D026, D035, F003, F005.

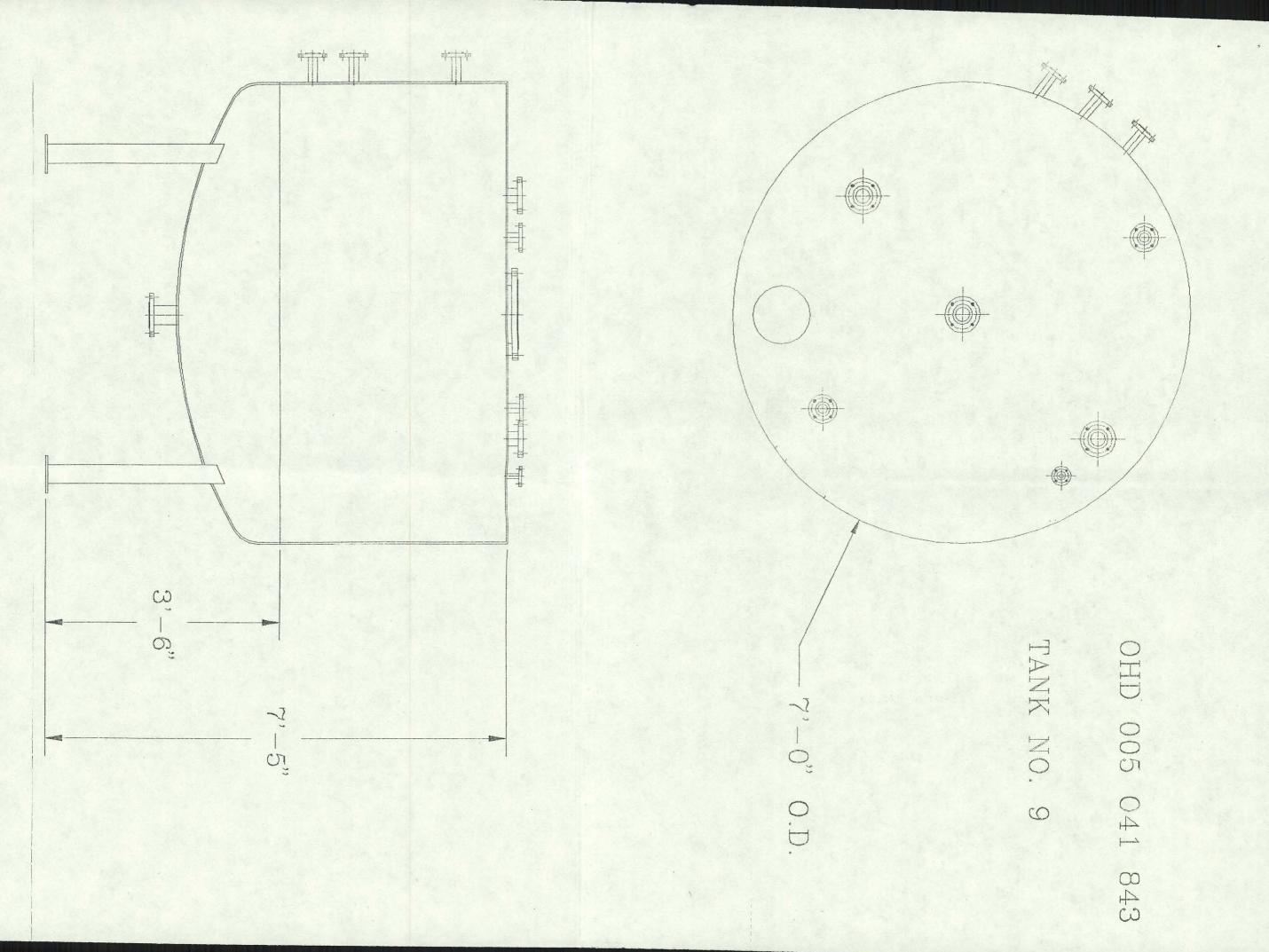
Partial tank closure costs: \$27782.04
Contracted cleaning/decontamination costs: \$15000.00
Contracted sampling/testing costs: \$9000.00
Contracted soil removal and disposal: \$7000.00
Total Partial Closure Cost: \$58782.04

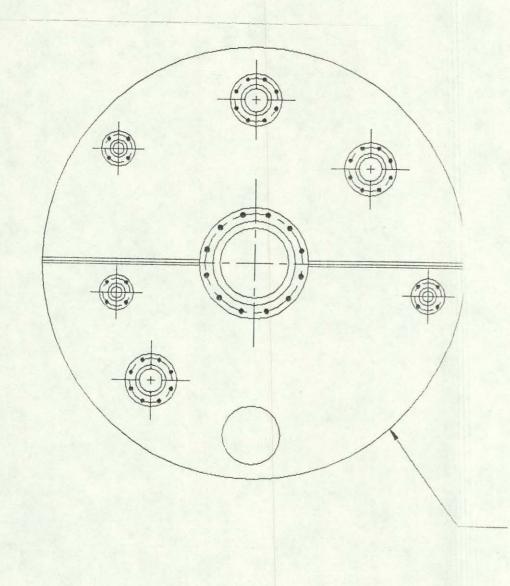
Attachment II

ATTACHMENT TVB



OHD 005 041 843 ATTACHMENT IVC

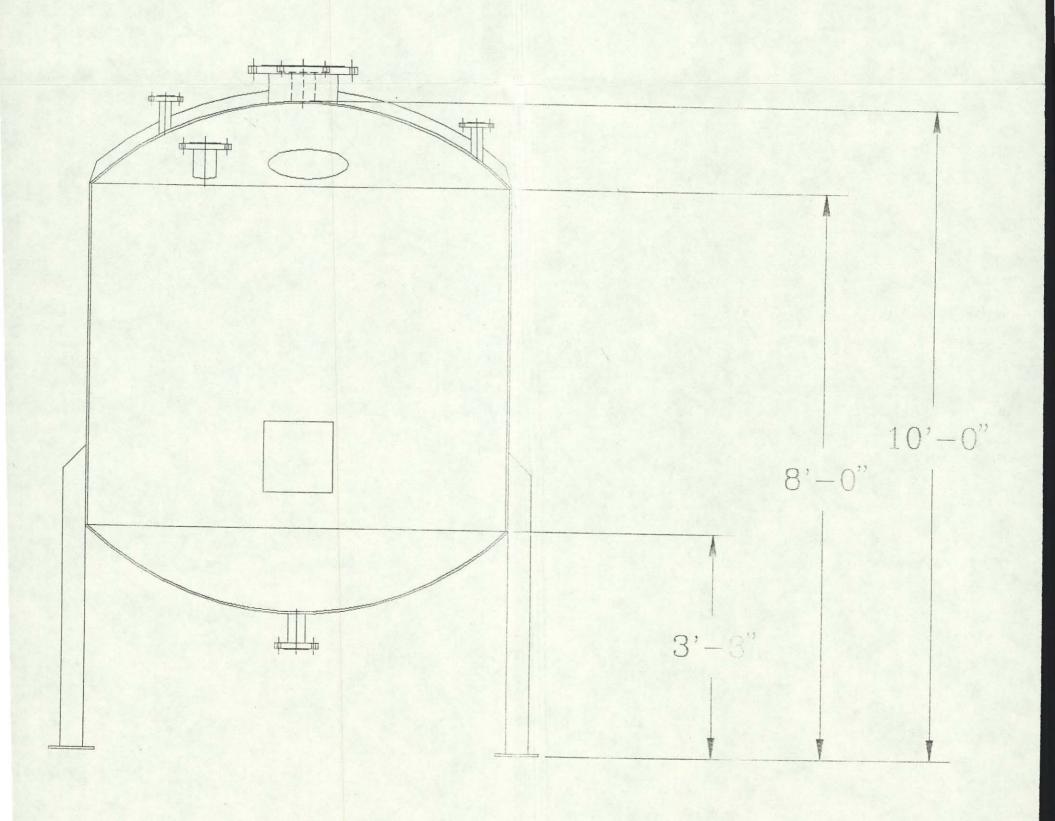


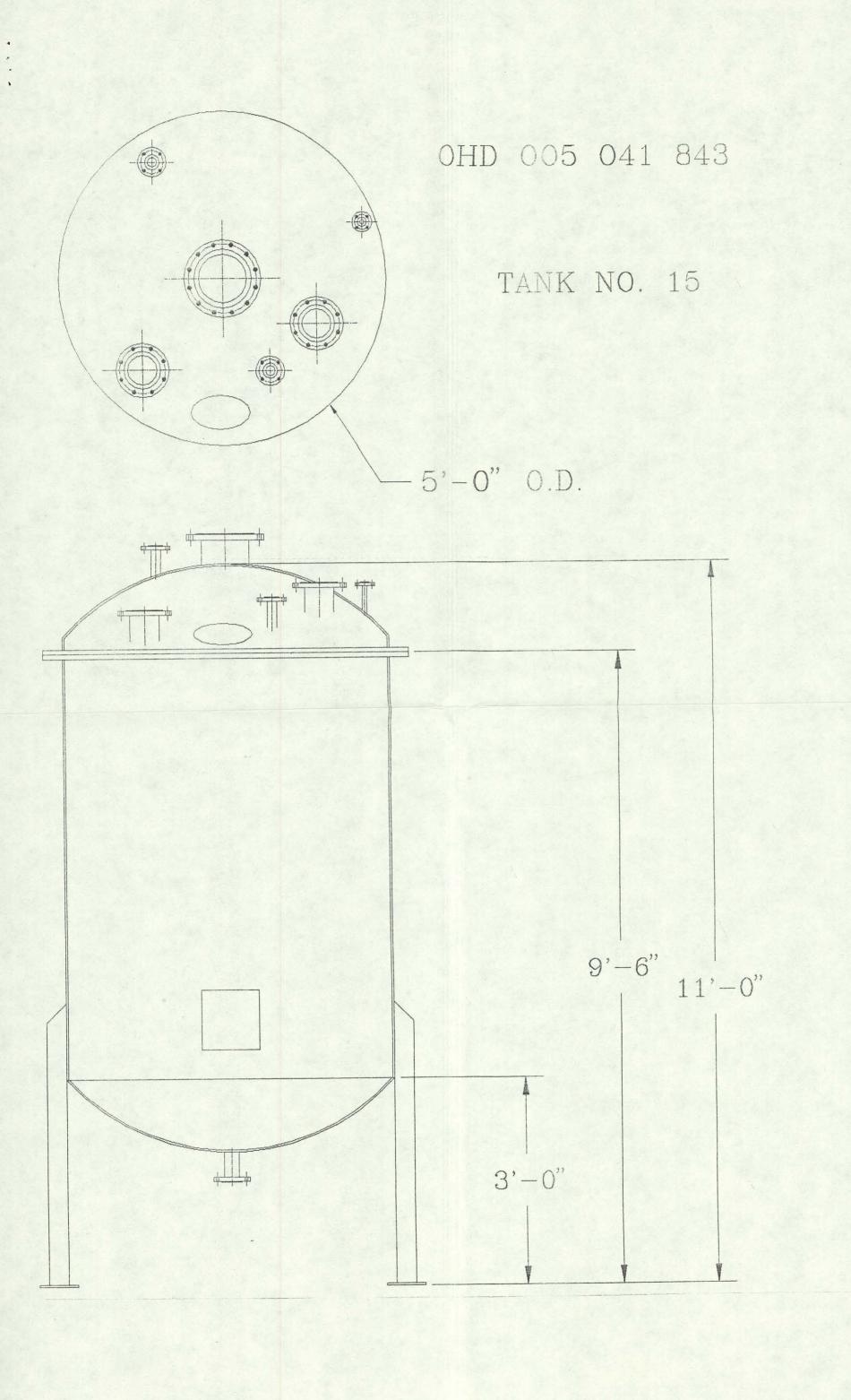


OHD 005 041 843

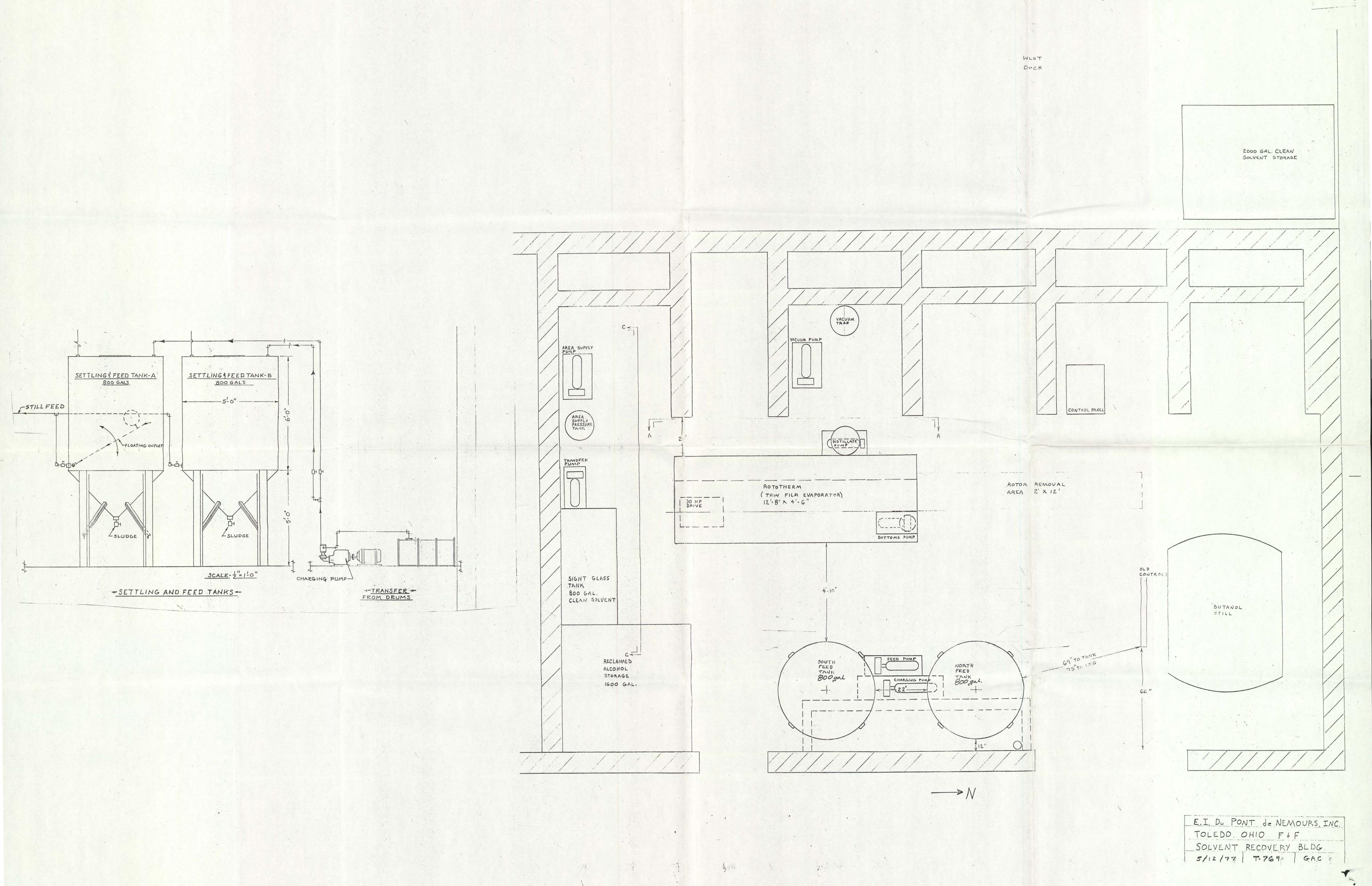
TANK NO. 10

6'-0" O.D.



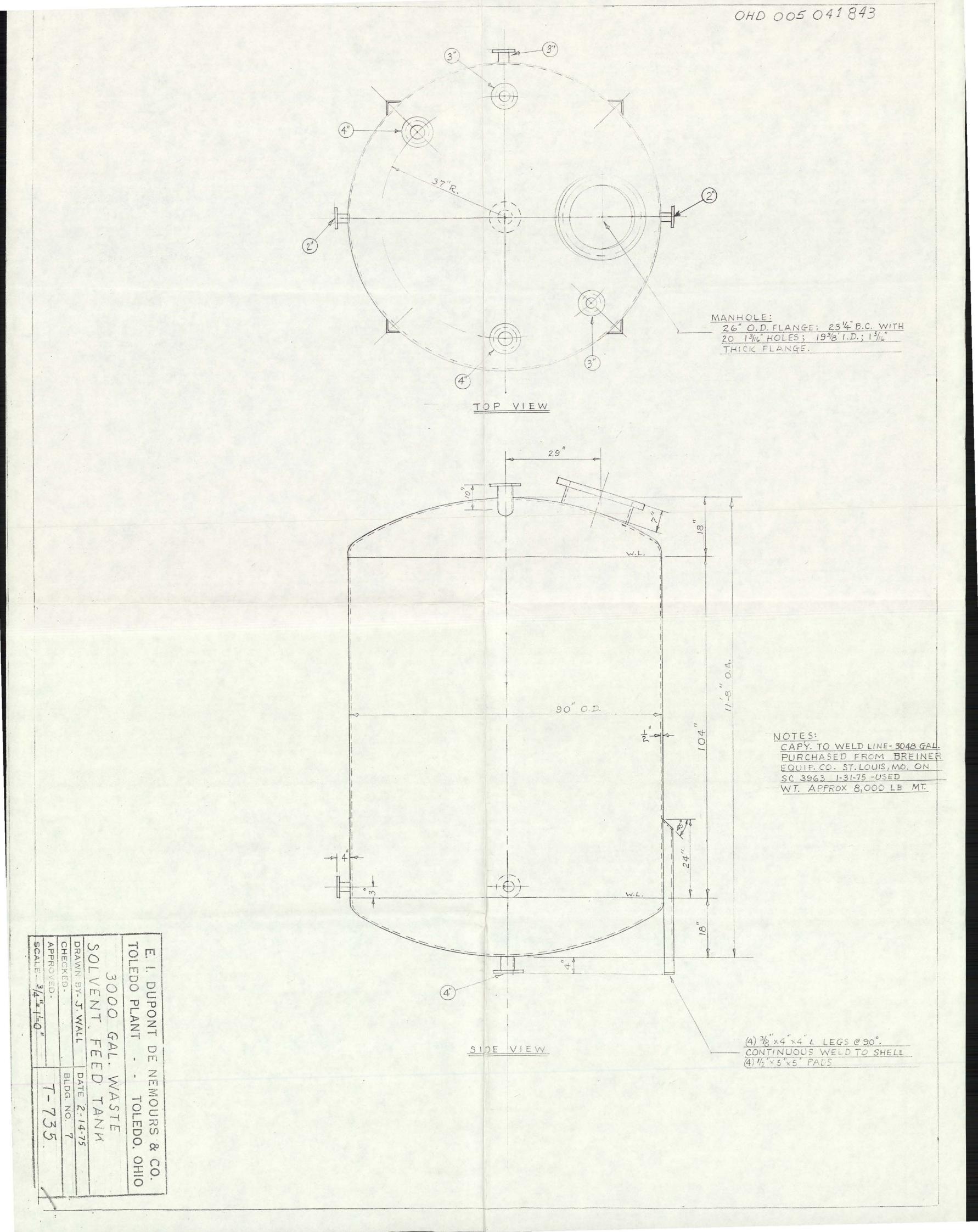


OHD 005 041 843 #11 #12 ATTACHMENT IVD



OHD 005 041 843 Possible CONTAMINATED GROUNDS ATTACHMENT IVE

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C. PERSONAL PROTECTIVE EQUIPMENT - HIGH RISK FORMULATIONS:

1. Concept:

Personal protective equipment is required during loading of high risk formulations. Care should be taken to review with operators that all documented F&F burn injuries by flash fire have occurred as a result of direct skin exposure to the flash fire. The basic philosophy behind mixer loading personal protective equipment is to minimize skin exposure to flash fire hazards.

Minimum exposed skin requires the use of long sleeve clothing, full trousers, approved facial protection and gloves.

2. Body Protection:

a. Clothing:

Recommended options exist on clothing fabric choice provided the fabric is at least 3.5 oz./yd weight and does not melt on exposure to flash fires. Approved protective clothing fabrics for mixer loading operators includes:

Nomostat*, Nomex, Cotton, Cotton/Darcron mixture containing at least 35% cotton and flame retardant cotton such as FireStop* treated cotton fabrics.

Any synthetic that will melt at flash fire temperatures such as Tyvek* Acetate, Nylon*, Dacron*, etc. is <u>not</u> approved.

Where a required outer garment contains a meltable fabric viz., Tyvek* coveralls used in chromate loading, an undergarment of an approved flash fire protective fabric must be used.

b. Nomex* - Static Potential:

Nomex* is susceptible to build-up of static charge. The static charge problem can be prevented in one of the two following ways (19).

- o Use of Avitex DN* anti-static agent in the final rinse during laundering of conventional Nomex*.
- O Use of Nomostat* fabric (a weave of 99% Nomex*, 1% stainless steel fibers) for construction of protective garment.

3. Hand Protection:

Gloves provide protection for the hands. As with clothing, 100% synthetic gloves such as rubber, polyethylene, or latex may melt in a flash fire situation and should not be worn when loading high risk formulations. Gloves which are made of cotton, leather, or cotton coated with a synthetic polymer will adequately protect the hands. Examples of the coated gloves are the Edmont Wilson #9-924 Black "Neox" or #8-352 "Scorpio". If 100% synthetic gloves must be worn due to 'S' code requirements, cotton gloves must be worn under them.

4. Eye and Face Protection:

a. Approved Equipment:

Approved face protection includes:

- o Properly worn nitrometer type masks with and without respirators.
- o Approved splash goggles with respirators
- o Full face respirators or approved hoods
- o Splash goggles without any other frontal face protection can only be used if the oxygen reduction line of defense is in place and functioning.

b. Nitrometer Mask:

Nitrometer type masks such as CESCO Model No. 10307 and MSA Series 500 are approved for mixer loading operations. In cases where respirators do not fit comfortably under these masks an MSA backpack respirator designed especially for this purpose can be used.

c. Splash Goggle:

Approved splash goggles or safety glasses must be worn under nitrometer masks. One example of an approved splash goggle is the Monogoggle* manufactured by American Allsafe Company, Inc. model number G-202-10R designed specifically for non-ventilated eye protection against splash hazards.

d. Hood:

For 360° head protection, a one piece hood such as 3M's W-5005 Whitecap* helmet is recommended, Attachment IV. This unit, which requires plant breathing air at a minimum 15 cfm and 50 psi, meets all NOISH and OSHA regulations. The unit fits all operators without requirement of shaving or other respirator type fitting restrictions. Operators can be heard when speaking with the helmet on, which is not possible with some respirators.

e. Airhat:

The 3M brand W-316 Airhat provides, in addition to hardhat protection, facial protection equivalent to a face shield as well as meeting NIOSH and OSHA requirements for protection from toxic dusts and mists.

